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JEALOUSY.

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There is a good, old-fashioned maxim which says, 'Envy no man.' But there are a hundred old sayings which make mock of the maxim. There is a French proverb that 'The envious die but Envy never;' a Latin proverb that 'Envy never has a holiday;' a German proverb that 'No one lives who does not envy;' a Danish proverb, 'If envy were a fever, all the world would be ill!' Another proverb declares, 'There is no man, however high, but is jealous of some one, and there is no man, however low, but has some one jealous of him.' In addition, there are the sour-grape, and the dog-in-the-manger fables, the evil-eye folklore, and a wealth of fairy

tales about envious stepmothers and jealous queens. 'Do ye think that the Scripture saith in vain, The spirit that dwelleth in us lusteth to envy?' The subject of our study is something very deep and universal in human nature. Indeed, jealousy is so ancient that it existed before human nature itself, as witness the present day manifestations of this passion in the lower animals.

I. THE PSYCHOLOGY OF ANIMAL JEALOUSY.

When through the stress of competition, animals come to feel antagonism and discomfiture in rivalry situations, they may be credited with jealousy; at least, in accordance with our definition. Omitting all speculation about love, hate, and sex feelings in atoms, crystals or plants, it may be safely said that the three primordial animal instincts about which all others cluster, are the self-preserving, the pairing, and the parental. At the lower end of the animal scale, where Nature is bountiful, where the conditions of life are comparatively simple, these three instincts, so far as they exist, remain comparatively simple, both in their operation and their psychic equivalents. As we approach the vertebrates, however, the creatures and the conditions of their survival become more complex. The fundamental impulses lose their original unblended character, or become associated with complicated activities, developed in response to the more difficult situations. As the biological behavior grows more complex, new psychic states come into existence, and fear, surprise, or anger make their first appearance. Something like a rudimentary jealousy is probably present among the arthropoda. "Even insects," Darwin says, "express anger, terror, jealousy and love by their stridulation." (9, p. 350.) Pocock attributes anger and jealousy to the spider. As many as five male spiders have been observed on one web after the same female, and Dr. Porter reports one case where the male achieved his mate only after vanquishing two rivals in two successive combats. (33, p. 347.) Among the crustacea there seems to be a high degree of emotional life. Pliny credited the pea-crab with jealousy. Lobsters are known to monopolize a special corner of an aquarium and jealously to expel intruders within a certain sphere of influence. Crabs fight vigorously for the same morsel of food, and show a tendency to clutch the morsel and swim off with it, guarding themselves with the free mandible. Hermit crabs often make disturbances in aquaria, because of a sort of restless jealousy which impels a strong individual to leave an apparently good shell and evict perhaps a half dozen of his neighbors from their domiciles, in succession, after as many encounters.

But coming at once to the vertebrates, Romanes is certain that jealousy appears in the very first class of this division. "Jealousy, anger, and play unquestionably occur in fish and batrachia." The stickleback is a good example. He will enter battle against rivals for a female; he will appropriate to himself a portion of the sea and furiously attack any other stickleback who may cross the frontier; changing color from rage, he will seize an enemy by the fins and lash with all his strength when a brood of fry are in danger. (35, p. 245.) The proprietary instinct, as Letourneau has shown, is closely related to jealousy, and becomes well developed among the back-boned animals. The lion assumes a large forest preserve upon which no other may trespass, but on pain of battle; aurochs collectively take similar authority over their feeding area; the pariah dogs of the East have their beats which they strictly police; monkeys and even the birds of the air have their hunting grounds. Besides this ownership in domain, there is the hoarding instinct, found in the rat, squirrel, hamster, and mole, who not only burrow spacious underground dwellings but fill them with a store of winter food. The same is true of birds like the shrike, the woodpecker and the owl, who buries its surplus provisions like the dog. (27, p. 422.) Furthermore, there is a widespread property in dwellings, "The bear has his cavern, the badger, rabbit and mole their subterranean home, the lion his den, almost every species of bird its nest, the beaver its lodge; the dog, fox, coyote, cat, tiger, and leopard all build temporary homes for their young." Among all these animals there is a stern struggle for existence, where appeal must often be made to the ordeal of battle. This property in food, domain, dwellings, and we may add in mates is not inherited, nor does it even come by the mechanical working of a proprietary instinct; it must all be acquired against rivals, and once acquired it must be watchfully guarded. In such a fertile soil of competitive strife, aggressive and defensive, —against fair rivals on the one hand, and intruding contestants on the other,—the feeling of jealousy which is such a useful ally to both offensive and defensive warfare, would strike deep root.

With this general statement before us, we may present in greater detail, cases of jealousy in animals of different species. Delbœuf reports an interesting case from the reptilia, the second lowest vertebrate class.¹ (12.)

¹ The descriptive accounts of cases of jealousy are printed in smaller type, not because the writer considers them subordinate in importance, but only to differentiate the same from the body of the article, and to economize space. The sex of the cases is indicated throughout by B and G or M and F; the age, by the figures following.

He owned two pet lizards, both males, who lived on the best of terms with one another, and slept side by side, often interlocking. But no sooner was a female introduced than "Pedro conceived a great antipathy for Pierre, which became more evident every day, tormenting him till I was obliged to make a separate cage for him." This is a clear case of sexual rivalry, as is the following of food rivalry. "My lizards did not vary from the general rule. The best worm was always the one that a comrade had. If it was long we might witness such a steeple chase as is seen sometimes in a poultry yard." "Pedro was (also) jealous of my preference and caress. When he was on my sleeve I could keep him for hours motionless by passing my hand lightly along his body; but if I took Pierre or another lizard up, his rage broke out at once and he would jump upon him with his mouth menacingly wide open." This would seem to be a case of rudimentary affection jealousy.

Next in the scale we come to birds, whose jealousy is proverbial. "That they also manifest the kindred passion of emulation," says Romanes, "no one can doubt who has heard them singing against one another." Darwin and Morgan both allude to the fact that song birds, when matched against each other, will sometimes sing to exhaustion and even to death. The rivalry of male birds in courtship is so ferocious that it frequently results fatally to one or more of the contestants. Especially is this true among wild birds, and it has been observed that an ordinary barnyard rooster will tolerate a rival in the yard, whereas a jungle fowl would kill him. But the fierce competition for food so commonly seen in the poultry yard shows that the spirit has not altogether died out of the domestic species. Pigeons kept in a coop will take possession of a certain proportion of perches, nests and space, which they will guard against infringement. Kingbirds and sparrows will also guard domain, and eagles assume feeding grounds. Just as the jealousy of the males flames up in the season of mating, so the pugnacity of the females comes to the surface at the period of brooding. The white shafted fantail "is a lively and amusing little being, singularly bold and confiding in character, betraying little fear of man. These attributes, however, entirely disappear during the breeding season, when the little bird becomes as suspicious and timid as it was formerly bold and confiding. It cannot endure that a human being should even approach its nest." (Wood.) The ordinary barnyard hen in the midst of her brood is a walking incarnation of maternal jealousy. She will even peck at unoffending chicks, which belong to a brood other than her own. But more highly developed, and more difficult to interpret than these jealousies for food, mates and offspring, are those manifestations which proceed apparently from slighted affections. Romanes quotes such a case as occurring in a cockatoo, who showed jealousy "at the sight of his mistress carrying on

her wrist, and stroking affectionately, a little green parrot." I shall report only one more such case, which I have directly and in detail, from an accurate observer.

The bird in question is a small, beautifully colored Cuban parrot, of highly imitative, talkative, and assertive temperament. The affectionate side of her nature is well developed. She was adopted as a pet when six months old, and since then she has had no relations with birds of her own or stranger species, except as she sees them fly past the window, and these she fears. Consequently her affections, so far as she has any, must be expressed with reference to cats, dogs, babies and adults, including especially the members of the household. Those who win her favor are rewarded by a low chattering, or by the gentle caressing of her bill, with which she gently rubs over your eyelashes or lightly explores the chambers of your ears. These are the unmistakable signs of affection. Now the remarkable feature is that the bird is almost whimsical in distributing them; she has her likes and dislikes. With some strangers she takes up readily, with others not at all. For babies she never shows any antipathy; but let her mistress only pet a cat or a dog in her sight, and she is beside herself with rage. Her eyes dart fire, her feathers ruffle, her wings distend, she shoots from her perch and bites the cat or dog with her beak. Cease the provoking petting of her rival and she is appeased.

Now from all the inquiries I could make, there is no other principle of interpretation possible here, but jealousy. Suggestion, imitation, fear, pure pugnacity, or desire for food,—all or any of these are inadequate as an explanation. And what is most conclusive is this fact, namely, that if a *stranger* should pet the rival cat or dog, the jealousy reaction is not as intensely excited as when the favorite mistress of the parrot does the petting. Something like a rudimentary affection jealousy must here be present, and it becomes conceivable when we recall that the parrot by virtue of its gregarious ancestry is an extremely social bird, "and stands at the very top of the whole feathered world for the development of its intelligence."

Proceeding now to the mammals, we are at once confronted with the intense sexual jealousy of the male sperm whales. 'In their battles they often lock their jaws together, and turn on their sides or twist about so that their lower jaws frequently become distorted.' (8, ch. 18.) The next case, cited, is from the ungulates, an unhandsome, but not unconvincing example in the pig. It is taken from Robinson, who has a genius for observing homely barnyard facts. (34, p. 221.)

"When a pig is alone in a sty he will often take his meals in an indifferent and leisurely manner, and, as often as not, if abundantly supplied with 'wash,' he will leave some of it in the trough until it becomes stale and uneatable. But when several are domiciled together, the beautiful influence of competition, which we so often admire in human affairs, comes to the aid of the farmer. The instant that the pail is emptied into the hog-trough there is an eager rush to the spot, each pig thrusting its fellows aside, and plunging its snout deep into the fluid in order to get as much property as possible into the only strong room he knows of where his goods are in peace."

Even the docile sheep shows the same competitive tendency in feeding. Horses are very susceptible to the influence of pace making, and they, like oxen, are reported to be jealous of favors of food or affection shown to companions. (45, p. 46.) Horses sometimes manifest a tendency to become jealous sentinels, in a manner reminiscent of the ancestral herd life. Thus one old gelding is reported to have made himself vigilant guardian over a young mare, whom he never left while grazing and whom he always protected from other horses. Another horse extended his guardianship over all the young colts in the pasture, and though otherwise of a gentle disposition, jealously repelled all intruding horses by kick or bite.

Some of the most precious examples of animal jealousy are doubtless to be found among monkeys, but the number of trustworthy observations on their emotional life is still sadly deficient.

Lieut. Schipp in his *Memoirs* (35, p. 493) relates of a Cuban monkey, "He quite understands the meaning of shaking hands. . . . To-day he had been a long time playing with his toys, taking no notice of any one. Suddenly my mother remembered that to-day was my birthday and (for the first time since he came to the house) shook hands with me in congratulation. He immediately became very angry with me, screamed and chattered and threw things at me, being evidently jealous of the attention my mother was paying me."

R. L. Garner, in his book on *Apes and Monkeys* (p. 163), gives an amusing case of which the following is a condensed account:

Aaron and Elisheba (male and female) are sitting on top of the ship hatch, absorbed in gnawing turkey bones. Along comes a big rival ape. Aaron looks up in surprise, but Elisheba hardly notices him. Big Ape takes seat to right of E. (A. being on the left). When Big Ape is settled, A gets up, walks over, and crowds in between them; then the Ape in turn gets up and deliberately sits on the other side. This performance is repeated six or eight times. A. struck blows at his rival, but in a half jocular, embarrassed manner. He gave no signs of anger, but made no effort to conceal his jealousy."

E. D. Cope, in the *American Naturalist* (Oct. 1890), relates a case in a chimpanzee, who, when his keeper intentionally neglected him at feeding time to the advantage of a companion monkey, "showed his displeasure by pouting the lips, and finally he would rush from the side of the keeper, and throwing himself on his back would give way to a burst of jealous rage. He kicked his feet, threw straw into the air, and screamed vigorously, the whole proceeding resembling what we sometimes see in a spoiled child. On the offer of renewed attention from the keeper, the chimpanzee was pacified."

It is fortunate that we have with us such convenient objects for study as the cat and the dog, the one representing excellently the gregarious, the other the solitary group of animals. The dog is an especially valuable specimen from our standpoint, since he is so expressive of his emotions, an expressiveness which was developed for its utility in the aboriginal pack life, and has been for centuries conserved by man. The typical dog is by nature such a sympathetic and affectionate animal

that he craves attention, and mere indifference or neglect is a punishment; often he loves a caress better than a biscuit. The stimulants to dog jealousy are correspondingly many and various, including not only material benefits, but attentions to all rivals, whether canine, feline, or human. I have noticed signs of jealousy even at the bestowal of mock affection upon an inanimate object like a chair. A fox terrier flew at visitors like a small fury, because they noticed to his neglect, the cunning tricks of a rival. Another male terrier became so dangerously jealous on the arrival of a baby into the household that he had to be put out of the way. Another regarded a pet lizard as a rival and was so keenly jealous that the mere mention of the word "lizard" would rouse the dog to walk excitedly about the room, and bark for as much as ten minutes at a time. Still another dog, who was on friendly terms with a kitten when both were left alone, would interpose if the kitten was petted, would pick her up and deposit her outside the range of the caresser's favor. A contributor to *Science* (Nov. 25, 1892) reports a case in which the dog did not deal so gently:

"My brother owned one (dog), a well grown, bright fellow, who was usually upon excellent terms with my kitten, but showed jealousy if the kitten was petted in his presence. On one occasion I held the kitten in my arms and purposely petted and praised it while the dog's eyes kindled ominously at the pretended neglect of himself. Suddenly the kitten jumped from my arms to the floor, and before I could interfere the dog had seized and shaken the life out of it."

Another case, to all appearances as decisive, and the details of which I was able to get directly, soon after its occurrence, may be quoted here for its trustworthiness and instructiveness.

This time it was a handsome, mahogany-red Irish setter of famous Elcho strain, an affectionate, sensitive dog who lived with his master from early puppyhood. For some ten years, in every weather, it was his habit to accompany his master twice a day, to and from the store, remaining during the business hours near or under the master's desk. But one day a very young kitten strayed into the store. For possibly three weeks it remained hidden under the boxes in the shop, and then, in response to kind treatment and food, cautiously and gradually came out from behind its retreat. During this period of concealment the dog, Rex, who was daily in the shop, must have known the presence of the visitor by the sense of smell, but he evinced no excitement until the kitten had assurance enough to show itself and to play about his master's feet. The kitten was very small, unoffensive, and timid rather than pugnacious, while Rex, it should be mentioned, was a courageous dog who delighted in chasing cats. The master refrained from aggravating any resentment, treated Rex in the usual manner, and did nothing to the kitten beyond feeding it, and occasionally taking it up in his lap. But this was too much for Rex. Day by day he showed clearer signs of his discomfiture, snuffing in a suspicious manner and watching askance for the appearance of the kitten as soon as he entered the store. His accustomed position was

under the desk, near the end of a long, narrow shop ; but day by day as the cat emerged from its seclusion, *he* made a gradual retreat. Finally, after about two weeks of this gradual withdrawing, he refused to enter the shop altogether, and remained outside, casting furtive glances through the window. But after a few days he surrendered even this outpost. He would accompany his master every day as usual, but on reaching the nearest corner, fifty yards from the store, he deliberately stopped, eyed his master till inside the door, and then turned home. This was his daily behavior for a long time, until his master gave away the cat, and urged him back into the shop. Thus, almost as gradually as the kitten itself emerged from the back-ground, did the dog retreat from a position he had held for years, finally to surrender it completely to his inglorious rival.

There are many interesting questions arising in connection with manifestations of dog jealousy. What is the earliest age at which a dog shows the first unmistakable signs of jealousy ? Six months seems to be a conservative opinion, excepting, of course, the slight amount of jealousy found in the fighting plays. What breed of dogs are most susceptible to jealousy ? And why ? Is there any difference between mongrels and pure strains in this regard ? Dr. Wesley Mills, of McGill University, Montreal, in an interesting letter, from which I take the liberty of quoting, has some observations on these points based on wide experience with cat and dog psychology.

"I think the Irish setter ranks high in affection, but whether the collie be more affectionate than other dogs, he is certainly above all others the dog of his master, and sometimes of one master, that is to say, he never becomes attached to a second master as to the first. Collies are also, perhaps, the most jealous of all dogs. I had in my own kennel some years ago a very remarkable instance of this. A young collie which came into my possession when ten months old, in the course of a year or so developed such jealousy that scarcely a single dog in the large kennel I had dared lift up his head. To such a pass did matters come that, although the dog was a valuable one, both as regards breeding and intelligence, I was obliged to part with him.

"The chief difference between mongrel dogs and pure breed dogs I can best express by saying that a pure bred animal is often a gentleman and a specialist, whilst the mongrel may be compared to a sort of a jack-of-all-trades with considerable intelligence and comparatively little refinement of feelings. The pure bred, I think, feels more than the mongrel, but whether he is more jealous I hesitate to say. The subject is complicated by many considerations involved really in the above general lines of distinction.

"My observations on cats are not so numerous as on dogs ; but I have little doubt that they are, to some extent at least, jealous, though certainly not to the same degree as dogs."

To consider a moment this question of cat jealousy. The cat, it must be remembered, is not a social animal like the dog, a difference which is important from our view point, and expresses itself in many ways, *e. g.*, behavior in eating. Quoting from Robinson (34, p. 229).

"The way in which a cat takes its food is a sure sign that, in its natural state, it is not in the habit of associating with greedy companions. When given something to eat, it first carefully smells the morsel, then takes it in a deliberate and gingerly way and sits down to finish it at leisure. There is none of that inclination to snatch hastily at any food held before it, which we observe even in well-trained dogs; nor does a cat seem in any hurry to stow its goods in the one place where thieving rivals cannot interfere with them. Indeed, no greater contrast in natural table manners can be observed anywhere than when we turn from the kennel or pigsty and watch the dainty way in which a cat takes its meals."

This difference in feeding habits is fundamental and very interesting. In the matter of sexual rivalry possibly the cat shows a greater development, while in parental protection there is no great difference. The jealous proprietary and hoarding propensities manifested by nearly every watchdog are, however, largely lacking in the cat. In matters of affection, in spite of its proverbial 'cat love,' the cat's conduct often resembles that of the dog. Jealousy is aroused in the same general manner, but with less frequency, by caressing another cat, dog or human rival. Occasionally cat and dog in the same household are mutually and reciprocally jealous of each other. If Lindsay can be trusted, a mother cat may torment by biting and cuffing, and even kill, one of its own offspring which happens by its cuteness to attract all the attention to itself.

The writer was able, as in the case of the dog, to get trustworthy details in regard to one instructive, if not typical, example of cat jealousy.

This cat was a sturdy, black, double-pawed, male animal, eleven pounds in weight, of affectionate disposition, lively and nervous. Adopted when two months old, a lean, pitiable looking kitten, he grew up under enviable attentions. Says Mrs. X., his mistress, 'I tended him as well as a child, gave him a bath as regularly as I would a child. He took the place of a child to me; but when the baby was born everything was changed for me. I didn't have time for the cat any longer.' It should be mentioned also that the kitten was unsexed when about three or four months old, that he had little society with others of his kind, and that most of his whole existence, emotional and material, centered about the home and about Mr. and Mrs. X., who, as stated, treated him like a child. All this would have an effect on the cat's psychology and help explain his subsequent behavior. When the baby was a day or two old, the cat sniffed up to the cot where it lay wrapped up in a shawl. The cat soon began to growl ominously, to spit, and made signs of cuffing it, but was prevented, and then ran to the door and importuned to get out. After that experience the cat would no longer stay in the house as a regular, peaceable pet, and his behavior was visibly changed. He would scarcely allow Mrs. X. to pet him any more, and would *not* permit her to take him up in her arms. Whenever, for any reason, the baby became the centre of attention, he suddenly went to the door and mewed to be let out. Let the baby cry and he became restless. If the door was not immediately opened, he pawed at it, and raised his voice to a howl, swished his tail, and so persisted that for very nui-

sance the door was opened. His actions indicated discomfiture rather than rage or grief. Once out, he made for the neighbor's barn, where Mr. X. worked. When Mr. X. returned from his work, the cat followed him home, but never to remain long. With time he grew more and more reluctant either to follow or to stay, and accompanied Mr. X. only half way home. Finally he disappeared altogether. But prior to his final disappearance, there was an event, which increases for us the value of this case. When the baby was four months old, the mother left for a visit and remained away nine weeks (as if on purpose of experiment to put this interesting case to a test!). The cat responded to the test, came back and resumed the even tenor of his previous peaceable ways. But on the return of his baby rival, the place again became intolerable, and he deserted it completely, as related.

Nature and Function of Animal Jealousy. With these examples before us, a fuller discussion of the character of animal jealousy is possible. We defined jealousy as arising from a conflict of interests (rivalry). Now manifestly in animals, the conflicting interests are not reflectively considered or comparatively perceived; in other words we do not have that higher reflective emotion which man can boast, but have instead, something more automatic, something direct and instinctively inherent in the organism; we have, to use Baldwin's terms, organic or instinctive emotion. At bottom, however, all feeling in man as well as in animals is instinctive. Admitting the concept of evolution, we can by no distinction divorce animal from human emotions. We must infer that the feeling life of beasts is, in some dim way at least, like our own. The impenetrability of consciousness forbids our saying or thinking anything very different.

If Nature, by some Utopian adjustment, had allotted but one male to every female, given each pair its measure of land, air and sea, and then put up cordons protecting every family from every family, the rich life of feeling would never have developed. Under such an arrangement, the specific instinctive activities might all exist just as now; the animals would be hungry, would breed and rear their young, but mere Cartesian mechanism would suffice. Jealousy, of all things, surely would not exist, for it is unthinkable without strife. It is precisely because Nature established no such quiescent equilibrium, but thrust her beasts, birds and fish into a rivalry where vigilance was often the price of survival, that jealousy appeared upon this earth, and appeared early.

Says Morgan, "Whatever may be the exact psychological nature of the emotions, it may be regarded as certain that they introduce into the conscious situation elements which contribute not a little to the energy of behavior." Indeed, is not this the very reason for their existence, at least in the animal world? Darwin, once or twice, seems to go even farther in

the attribution of utility to the emotions of pugnacity and jealousy, for he speaks of them, not only as being the correlates of male sex, strength, and beauty, but as having a causal effect in producing the secondary (male) sex characters. (8.)

The various emotions, then, are allies, which the agency of natural selection has furnished to stimulate and intensify instinctive behavior. Of two candidates for survival, both equally equipped with the biological modes of action, that one who had the better *psychological* equipment in the way of feelings to energize his action would win the palm of existence. In a state of rivalry between individuals and species the possession of mere ability to eat and to pair could not insure existence. Vigilance, combined with pugnacity, was the prerequisite of survival, and those creatures who had the least amount of vigilant jealousy suffered the 'stern fate of elimination.' Viewed broadly, jealousy seems such a necessary psychological accompaniment to biological behavior, amidst competitive struggle, that one is tempted to consider it genetically among the oldest of the emotions, synonymous almost with the will to live, and to make it scarcely less fundamental than fear or anger. In fact, jealousy readily passes into anger, and is itself a brand of fear.

Relation of Jealousy to Other Instincts. We have spoken of jealousy, both as an instinct and as an instinctive emotion. The latter term may be more satisfactory, because 'instinct' connotes some specific biological activity, whereas jealousy rather suggests a general, plastic store of emotional stimulant. In a few cases, however, the principle of jealousy seems to have crystallized into a definite instinct. The queen hive bee is possessed of an instinct which drives her to destroy the female cells before they are hatched, to forestall, as it were, future rivalry. The common tomcat has been known to strangle the males of his own litter, when they are but a few weeks old, long before they, his potential competitors, are mature. A fledgling cuckoo will eject eggs and nestlings from the home of its foster parents. Again, jealousy is particularized in the sense that the most critical situations bring it out most strongly, and there is always a special increment at the pairing and breeding seasons.

Jealousy, as we have indicated, is closely connected with the *proprietary instinct* in general; it is related not only positively with the desire to appropriate, but negatively with the capacity to feel imminent and actual disappropriation. Letourneau makes both envy and jealousy an exacerbation and outgrowth of the instinct of property.

The relation which jealousy bears to instinctive *sympathy*, would be fruitful to trace out in detail. Sympathy was devel-

oped like jealousy as an organic emotion, which furthered the survival especially of gregarious animals. Unlike sympathy, jealousy is anti-social, but not without having a place in the economy of things. "As a complication of sympathy, also considered as instinctive in animals (jealousy)," says Baldwin, "would seem to be a necessary outcome of the law of utility, for the dog whose sympathies for another had no such modification would stand by and perish while others lived, whenever the competition for food was sharp. His delight would be to see others eat." (1, p. 235.)

In the course of events it is likely that individuals arose who had a Quixotic fund of jealousy, disproportionate to their interests; but these would perish, and in many species, natural selection, to check such unsymmetrical development produced the instinct of caution and *bashfulness*. Just as jealousy may be considered an antidote to offset the disadvantages of an overdeveloped sympathy, so bashfulness and caution, which are a differentiation of fear, can be regarded as a counterpoise for a too aggressive jealousy. That peculiar form of bashfulness found in the female and called *coyness*, on the other hand, may be regarded as a stimulant to jealousy.

Another influence which has been of great importance in offsetting and reducing the scope and strength of jealousy is the instinct of *mutual aid*, which, as Kropotkin has pointed out, is a factor in evolution on a par with mutual struggle. It is the latter which favors the growth of jealousy, while with the former are associated the amenities of sociability, and peacefulness. To quote a few examples from Kropotkin's work: "The little Egyptian vultures live in close friendship. They play in bands in the air; they come together to spend the night, and in the morning they all go together to search for their food, and never does the slightest quarrel arise among them." "Pelicans fly to their resting place, always the same for each flock, and no one has ever seen them fighting for the possession of either the bay or the resting place." "Sparrows announce and share food." Life in animal societies even develops "a certain collective sense of justice growing to become a habit." (29, pp. 22-24, 58-59.) "Separate groups of penguins have separate resting and separate fishing abodes, and do not fight for them." Bank swallows are very congenial, even when there are more birds than resting sites. The migration of birds also furnishes fine examples of co-operation and sympathy.

Adolph F. Meyer, a sympathetic but careful student of bird life, writes of the white throated sparrows (during migration) as follows: "They are about the most loving and peaceful birds I know,—like the swallows but with more 'soul life.' I

can imagine no more impressive scene of loving tenderness than a flock of white throats cuddling together in a brushheap at eventide and with soft brooding notes of cozy companionship going to rest for the night. This scene, and their rather soft tremulous song, have so endeared them to me that I can hardly imagine white throats ever to be jealous."

Here, then, in sociability and mutual aid we see the other side of the shield; but jealousy, however anti-social it may be, retains a function in zoölogical economy; namely, to conserve the individual as against the group. It is Nature's great corrective for the purely social emotions.

In this connection arises the interesting question, whether solitary or social animals have the greater development of jealousy. The question is complicated by the fact, as Kropotkin has pointed out, that "it appears probable that apart from a few exceptions, those birds and mammals which are not gregarious now, were living in societies before man multiplied on the earth and waged a permanent war against them or destroyed the sources from which they formerly derived food." (29, p. 52.) It seems, also, that solitary animals will combine on occasion, as lions in hunting. Gregariousness increases the general amount and expressiveness of emotion, and develops sympathy and sensitiveness; this, combined with the fact that social animals are more frequently confronted by rivalry situations, would tend to the conclusion that they are more jealous. They surely have more capacity for affection jealousy, as witness the parrot, crane, and dog, and we have already referred to the jealousy of canine 'table manners.' In regard to sexual rivalry there appears to be no such difference. The number of cats observable exceeds the number of dogs, and the fact that they are much less frequently credited with jealousy is significant.

Mutual aid within a gregarious group by no means excludes the operation of mutual struggle with its attendant jealousy, and Kropotkin himself cites the quarrelsomeness of the social rats in our cellars, and of the social morses, which are prone to fight for the possession of a sunny place on the shore. Moreover, it should be noted that the operation of the mutual aid law is confined within a group, or a species, and does not prevent but often intensifies the struggle between groups and species. Thus sparrows may share food, but they will fight with fierce jealousy to keep a domain free from strangers.

The Factor of Sex, like that of sociality, is difficult to evaluate. In the matter of food rivalry its influence is slight or nothing. In sexual rivalry, jealousy is largely confined to the male, except in such few cases like the cassowary, mentioned by Darwin, 'where the female takes the lead in court-

ship, and plays the part of the male throughout, exhibiting all the worst of his passions, such as rivalry, jealousy and ferocity, the rivalry and jealousy leading to frequent battles for the possession of the male.' But whatever effect the mating season may have in increasing the jealousy of the males, this is partially compensated for by the demands which the breeding season usually makes on the female in watching over and protecting her young. Finally, it is well to note that jealousy is exhibited in unsexed animals,—emasculated cats, spayed bitches and geldings.

Expression of Animal Jealousy. There are two characteristic modes in which animal jealousy expresses itself,—excitation of the creature, or depression. Just as in the social human there is what has been called 'a sense of other persons,' so in the higher animals there is 'a consciousness of kind,' and an instinctive sense of a rival's presence. The experience may be momentary or prolonged; if it is colored with the proper stenic or asthenic reactions we have jealousy. A worm is thrown to a couple of Lloyd Morgan's chicks. "Instead of quietly and leisurely dealing with the worm in accordance with its special meaning as it (a chick) does when there is no rival in the field, the chick darts at it and bolts with it in accordance with the special meaning which its neighbor's presence under such circumstances, has acquired. And this difference is in the conscious situation,—the interest of which is centered in the companion."

In the lower and more usual forms, the expression of jealousy is of this positive, aggressive nature. First comes the perception of the situation of rivalry, and then with instinctive promptness, for the reaction is organically ingrained, the bucks lock horns, the chicken bolts, the fish makes a lunge, etc. There is an instantaneous toning up of the muscular system; the heart beats faster, blood sets to the head, breathing accelerates, the eyes kindle and the whole organism tingles ready for onslaught. If the onslaught immediately follows, the jealousy passes into rage and we have the jealous rage or raging jealousy; if not, we have what appears to be a painful state of 'obstructed conation,' of 'thwarted impulses,' of nascent fear and anger, or of vigilant preparedness.

As the situations become more complex, and as the animal's emotional nature becomes more highly developed, the jealousy reaction is not always simple. Take dogs, *e. g.* The manager of a Pennsylvania kennel writes me as follows: "The different modes of expressing jealousy by dogs and other animals, we consider depends on the disposition of said animals entirely, as you will find almost as many different dispositions in animals as you will in persons. Through jealousy, a dog,

for instance, if he be of an aggressive nature, may become very much so toward the object of his discomfiture, but if he is of a tender nature, and much devoted to his master, he may through jealousy, just sit and cry or go away and mope by himself over his grief and in some cases refuse to eat." Almost any one can substantially verify the statements of this observer. We should insult the psychology of the dog, if we expected the same stereotyped jealousy reaction in the ponderous mastiff, the leisurely spaniel, the dainty lapdog, the nervous terrier, and sensitive collie. Moreover the individual differences in specimens within the same variety, yes, the same litter, are marked. Anger symptoms are, naturally, the most common and need not be reviewed, but in addition to angry biting, etc., we have whining, howling, whimpering, moaning, subdued barking, pawing, rubbing, retreating, nervousness, nosing, squirming, restless pacing, frisking, performing of tricks as though to attract attention, interposing with paws, slinking, hiding, crowding, licking, swallowing (apparent lump in throat), dropping of head, tail and body, rolling of eyes, loss of appetite, moist eyes, tears,—and combinations of expressive movements difficult to describe, but which are popularly made to indicate moping, despair, dejection, sorrow, sulking, etc.

The group of depressive symptoms taxes our power of explanation more than the excited. To say that the former show wounded feeling, or slighted affection, perhaps connotes too much. Yet they plainly bespeak a painful emotional state. Skye terriers (one of the most jealous breeds) have been known to shed tears freely, and instances of dogs pining away from grief, in such cases are reported. (14, p. 181.) That they refuse food is beyond doubt, and I have known of at least one dog with ample opportunity to eat, who grew fatter as soon as his rival left the premises.

An interpretation of animal jealousy will be attempted in a future section, where the genetic development of this feeling is traced. Tentatively, it may be said that if animal jealousy cannot be reduced to anger and fear, it at least contains these as prominent elements. In the most rudimentary form jealousy is almost indistinguishable from pugnacious anger. In the more developed type represented by the dog who cries, whose whole demeanor is one of depression, we are at the other pole,—anger has given way to fear, which is one of the most depressive of feelings. If fear is made to include not only terror and timidity, but also the feeling of helplessness, and the sense of loss or defeat, it proves a still more useful principle of explanation; and the expressive movements manifested in depressive jealousy become thereby more comprehen-

sible. They may then be interpreted as remnants of what were once utility reactions. Slinking, hiding, retreating and sulking represent the fleeing to safety from a feared or victorious rival; crouching is a sign of submission; the drawing in of ears and tail was once a highly serviceable attitude when in danger of tooth and nail; whining and howling are the language cry of distress; while the restless and askant eyes, so characteristic of jealousy even in man, are reminiscent of the furtive, hurried glances at a pursuing or prowling foe. There are border line cases where the askant eyes bespeak anger rather than fear, where, by his nervous, embarrassed behavior, the dog seems hardly to know whether to fly at or from his rival. Which again goes to show that we are dealing with a plastic anger-fear psychosis.

However complex, in its higher states, human jealousy may be, it will always be found to bear 'the stamp of its lowly origin;' and will become more comprehensible in the light of its pedigree. It is significant that in the prehuman jealousy just surveyed, there are revealed the same two large types which the emotion assumes in man: the excited and the depressive,—the jealousy which is angry and the jealousy which suffers.'

II. THE PSYCHOLOGY OF HUMAN JEALOUSY.

There seems to be something uninviting or sinister about the theme of jealousy. Stanley in his comprehensive 400 pages on the *Evolutionary Psychology of Feeling* does not so much as mention the word jealousy. Ribot deplors the scanty literature on the subject, but himself devotes only a few sentences to it in his book on the emotions. James dismisses it with the one line namely, "Jealousy is unquestionably an instinct." Even Darwin has little to say on the matter. While anger and fear have received considerable treatment jealousy does not even have a monograph. Yet this feeling is both biologically and psychologically interesting, and is laden with practical importance for criminology, sociology, and even pedagogy,

A questionnaire was issued last year by the writer for securing certain data upon which to build some genetic and psychological interpretation of the subject. The syllabus follows:

A. *The rôle which envy and jealousy have played in your life.* Give a running account based on retrospection and the testimony of your parents, describing the manifestations of envy and jealousy in (1) Infancy, (2) Childhood, (3) Adolescence. Make a full list of the things which have prompted your envy or jealousy (not omitting the most trivial) and then select a few specimen cases for frank exposition. Tell at what age outbreaks first appeared, when most frequent and intense, how long they lasted, how they felt, how they were appeased, what actions they led to, etc. Have you ever felt envious or jealous

of the opposite sex, or of persons in literature or history? How do you feel toward a person whom you know to be jealous of you?

B. *Envy and jealousy as observed in others.* Describe mean, malicious things done by infants, children or youth from jealousy (such as destruction of toys, snatching sweetmeats, slapping, spitting, injuring clothes, disfigurements, lying accusations, etc.). A detailed description of some striking incident will be especially valuable. Describe also, if noticed, less aggressive manifestations like sulking, crying, hiding, etc. Mention the occasion for the jealousy, the approximate age, and the sex in each case. In the absence of overt acts are you able to detect envy or jealousy? How?

Give cases of 'class jealousy' which you have seen between groups of children (wards, neighborhoods, streets, clubs, etc.), between churches, societies, business or other corporations, cities, families, etc.

Add, if possible, observations of 'jealousy' in lower animals, stating sex, circumstances, outward expression, actions prompted, etc.

C. *An introspective description of the state of jealousy as you now know it.* Tell exactly how you feel (which, if any, of the following feelings are present: anger, anxiety, grief, rancor, self pity, fear, mortification, desire to injure). Tell how the attack comes on (slowly or suddenly); when most likely to occur; how long it lasts; whether the same attack recurs often; what impulses, what thoughts inspired. Describe all outward or inward expression, *if any* (flushing, paling, chill, sweating, changes in muscle tension, scowling, grinding of teeth, movements of eyes and tongue, clenching of fists, attitudes of body, stamping, etc.). How do you feel after an attack? Do you exercise any means of control, and with what success?

In what respects was the state of jealousy different when you were a child?

If you make a distinction and find noteworthy differences between the state of jealousy and that of envy please state same.

D. *A description of the 'jealous temperament.'* Delineate an individual who is distinctly of a jealous disposition. Tell the nature of the jealousy, and note whether the person is otherwise selfish, genial, generous, irritable, sluggish, melancholic, energetic. Specify age, sex, nationality, and any pertinent facts of heredity.

The syllabus was by no means a popular one, but 345 persons kindly responded, most of them with satisfactory frankness. The bulk of these replies came from young women students of the New Paltz, N. Y., and Trenton, N. J., normal schools, and from advanced students of both sexes in Northwestern University, Evanston, Ill. Madame Anna Grudzinska, of Kieb, Russia, sent a valuable communication accompanied by excellent replies from ten Polish men and women (average age over 30, and mostly married). Post graduate students from Clark and Columbia Universities also responded. In addition to the reminiscent and introspective accounts, 450 observations on children, youth and adults were collected, so that in all over 1,000 cases were available for our study.

Infant Jealousy (from birth to six years of age). Having considered the animal aspects of the subject in a previous section, and reserving the treatment of jealousy in primitive races for a later section, the topic next in natural order is

infant jealousy. Phyletically, we found jealousy to be very fundamental. What are the time and manner of its first manifestations in the development of the individual?

St. Augustine says, "I have seen an infant jealous; though still unable to speak, it already regarded with pale countenance and angry eyes the child at the breast with it." Quoting Tracy, "The child of three months shows by various signs a proprietary interest in the breast, handles it as his own, and is jealous if it be given to another. Later he demands it with still more authority." "At three and a half months, little Mary is jealous in the extreme and cries if her sister sits upon the mother's lap." "From the eighth month, another child gave every evidence of jealousy in similar circumstances, grew angry and tried to drive the usurper away."

Mr. A. Stevenson, contributing to *Science* (Oct. 28, 1892), reports a clear case in his little girl aged only ten months. "Her brother (age four) has just returned after an absence. She displays great affection for him, but is also much attached to her nurse. If the nurse takes up the boy and fondles him she "will immediately cry out in a distressful way, in a tone not precisely indicative of anger or vexation, but more nearly similar to the tone of grief or disappointed desire. In the case described the infant will not be appeased unless the nurse puts down the boy and takes her up. It will not avail for the nurse to take her up on one knee, leaving the boy on the other."

Sikorsky places jealousy which manifests itself in rage in the first year of life. (78, p. 56.) Perez mentions a child of 15 months who was jealous if sugar was given to its nurse, and another of the same age who enacted curious little scenes of separation, scolding, and pushing when her father tried to kiss her mother. (32, p. 71.) Tiedemann's son (age 22 months) showed signs of displeasure on the birth of his little sister, whom he tried to beat whenever he saw her on his mother's lap or in his own cot. Darwin noted plenty of jealousy in his child at 15½ months, and observes that it can probably be found earlier.

Dr. May S. Holmes, Supt. of Isolation Hospital, Worcester, Mass., had ample opportunity to observe the jealousy of a little patient who had been under her care for over a year. The case is reported below in condensed form:

Yetta, girl, four years of age, Jewish parentage; normally developed, fair; fine, red, curly hair; very bright, attractive child, except when in a temper; inordinately vain and coquettish; not very affectionate, but very insistent in her demands for attention. Y. entered the hospital almost moribund with diphtheria; paralysis of the larynx necessitated the wearing of an intubation tube and she has acquired the tube habit. The state of her health decidedly affects her irritability. There are four ways in which the jealousy expresses itself: (1) trying to attract attention from a rival by coaxing, taking hand and leading away; (2) by sulking, (3) by passing from sulks into a stiffened pose, with body thrown into a most uncomfortable position, eyes staring and usually turned down to the side. Y. was seen to keep such a position one day for half an hour because of some attention to another patient. She gets very much flushed and is sometimes not good natured again for some hours. (4) By a paroxysm in

which she will do herself bodily harm, principally in scratching her cheek and tearing her hair. "This morning," writes Dr. Holmes, "I found her just passing the climax of such an attack. She had torn hair out of her head, so that the nurse could hand me some; pieces of hair were all over her face, hands, and dress; she lay with her hands across her face attempting to cry, but as the tube prevents any voice, she could only make a loud blowing noise. She was badly cyanosed and the pulse was 164. . . . Her eyes are always set staring, never rolled up. Sometimes she has thrown herself onto the floor from her bed."

Besides many reminiscent accounts, the questionnaire returns furnished (objective) observations of 103 cases of infant jealousy, definitely reporting the age, sex, and circumstances. These cases (52 boys, 51 girls) fell into two almost equal classes: (a) jealousy shown in regard to concrete things, possessions, etc., (b) in regard to attentions, caresses, etc. This distinction, however, is not always possible, nor very useful. Playthings figure prominently. They are smashed and torn to pieces often enough and decisively enough to bring delight to the heart of any manufacturer of toys who might read the returns. Sometimes, however, the toys are only snatched or vindictively guarded, or taken away and hid.

B 2 would not allow his sister even to touch his toys. B 5 screams and cries almost beyond control if a toy is taken by his brother. B 4 will hide his best playthings when G 3 comes to play with him. G 5 vigorously refused to allow any one to wheel her baby brother in his 'pram,' though refusing herself to do so. One of twin boys nine months old will snatch his brother's bottle, drink the milk and then hit him with the empty bottle.

The tyranny of infants in regard to attentions often becomes amusing. G 5 would not allow any one to read in her presence, *i. e.*, would not permit any one to attend to a book instead of to her. G 3 opposed any one who tried to kiss her mother. Another child of three hid behind a chair when dispossessed from mother's lap. B 3 crawls into his mother's lap when any one shows affection for her. Infants will struggle and fight to be the only one in father's lap, and boast that they are best loved by him. B 3½ slapped a lady visitor because she swung other children besides him in the swing. He could not be made to understand what it is to play by turns.

Infants will variously hold out their arms, fret, whine or burst into violent crying, cover their face with their hands or sulk when their mothers caress or hold another baby. G 3 is so jealous of her mother's petting she will on occasion roll on the floor, scream, kick and bite like a little beast. G 4 tried to pull her rival (six months of age) from her grandmother's arms. She also hit the baby when asleep. It is dangerous to allow them together alone. G 5 tried to shake her new-born baby brother. G 4 struck her baby sister with a whip. G 2½ tried to pluck the eyes out of her baby brother. She had to be carefully watched. B 2 pretended to want to kiss a baby three days old, but brought out an iron rod to strike it. He showed joy when the baby died. B 5 had to be taken from home on the birth of his sister. He threatened to kill her.

A rival in the shape of a new-born baby brother or sister is one of the most frequently mentioned causes for early and vio-

lent outbreaks of jealousy. The manifestations are very pronounced and they seem to be especially instinctive in origin. They constitute, sometimes, the most precocious of juvenile murders. And, to look at things from the child's standpoint, the provocation is great. After an uninterrupted and absolute reign, to take a little monarch by the hand, and with mysterious mien to usher him into the birth chamber, and ask him to felicitate on the arrival of that ugly looking little pink mass, there on the bed, robbing him of his accustomed caressés,—that is asking too much. And the scenes which are enacted on these occasions are not without their pathos and tragedy.

B 2½ showed a contorted mask of pain, spiritual discomfort, and almost despair on the birth of his brother. G 5 cried, 'Take him away. She is not his mama, but all mine.' B 4 showed jealousy for a whole month after the birth of his baby sister; refused to leave his mother and had to be forced out of the room; would not play; would not allow any one to touch him in these spells, but cried continuously, 'I want mama, I want mama!'

Helen Keller in her autobiography makes the following confession: "For a long time I regarded my little sister as an intruder. I knew that I had ceased to be my mother's only darling, and the thought filled me with jealousy. She sat in my mother's lap constantly, where I used to sit, and seemed to take up all her time and care. . . . At that time I had a much-petted, much-abused doll. . . . I had dolls which talked and cried and opened and shut their eyes, yet I never loved one of them as I loved poor Nancy. She had a cradle and I often spent an hour or more rocking her. I guarded each doll and cradle with the most jealous care; but once I discovered my little sister sleeping peacefully in the cradle. At this presumption on the part of one to whom as yet no tie of love bound me, I grew angry. I rushed upon the cradle and overturned it, and the baby might have been killed had not my mother caught her as she fell." (26, p. 15.)

Dolls are in the same category as persons at this and a later period. One, G 2, exhibited jealousy when her doll was petted by her mother, and threw the doll on the floor in a fit of anger. Moreover, as Ellis and Hall found, in 77 of 579 cases, jealousy was one of the psychic qualities which children attribute to their dolls.

Though even infants may cry in secret from jealousy, it is evident from the examples above that their feelings are usually promptly and plainly expressed. Those cases in which the jealousy is formulated in words are especially interesting and convincing.

G 3 on seeing her mother pet another child exclaimed, 'Bad boy mama. My mama.' G 1½ when mother took up her baby brother said, 'Let him cry. Take me.' B 2½ having smashed a rival's toy, said, 'Now I guess you won't play with it.' B 5 joyfully greeted the announcement of his little brother's illness with, 'Now I can have both chairs!' G 4 after her father had carried her brother "piggy back" said, 'I wish I could poison Thomas, I hate him so.' Another little girl, when her mother petted some one else, sobbed, 'All my

mama, all my mama,' and would be comforted only when assured that mother was all hers. B 2 clung to his mother on the coming of a baby visitor and could not be coaxed to play. Very seriously he asked, 'What baby is that? Is it coming again?' B 3 when invited to his playmate's party was woefully surprised to see so many present, and staunchly said, 'I don't want other boys around when I go to see Janet.' No mention of ice cream or games could induce him to join the party. G 3 on seeing her lady friend, Miss M., walking with another little girl, said, 'I hate Miss M. I'll kill that little girl that is with her.'

Childhood Jealousy. (Age, six to twelve.) This is the elementary school age. The social interests widen, and the sense of self develops correspondingly. Competition, leadership and organization become important features in the plays and games; and the child's whole environment grows complex. The jealousies though still childish are less so than in the previous period; the self takes on, to a higher degree, the character of a socius and becomes more sensitive to fine distinctions. The situations which excite to jealousy are less egregious and often involve only the slightest partialities, or even imaginary differences in favors, gifts, clothes, etc. Let any one attempt to distribute Christmas dolls in the children's ward of a hospital, without taking the precaution to dress all the doll's alike, and he will see what is meant.

As the social sense grows keener, the tendency of rivalry increases. This is the period of boasting and of showing off. The writer examined 105 questionnaire returns on the subject of bragging and taking a dare, and found that these egotistic tendencies in children are by no means purely egocentric, but are colored by a strong social appreciation, and a spirit of competition. The common expression of these boasts is, 'Mine is nicer than yours.' 'Mine is bigger than yours.' 'My pa can lick your pa.' 'My gang can put it over your gang.' A gentleman tells G 6 what a big dog he has at home, and she, not to be outdone, says, 'O, that 's nothing, I have a dog at home as big as this room, and with a head as large as the piano.' B 8 heard his teacher say that a certain girl could read better than he. After school he came up to her and said, 'If you can read better, I can fight better,' slapped her and ran away. Many more instances might be cited to show that it is a social setting which brings out the dare and the boast. The comparative instead of the merely individualistic manner of statement, shows that a spirit of rivalry is behind them, a desire not to be outdone, something akin to jealous self-regard. Hall and Smith in their study on Showing Off say that, 'In bragging lies, in regard to possession, envy and imitation are frequent motives.' (20, p. 16.) The delight in exciting envy, also, is one of the motives of children's teasing, while

precociously coy little maidens like to excite jealousy in their lovers by being nicer to other boys.

Indeed, this is the age when most of the cases of pre-adolescent affection appear, bringing forth a type of jealousy much more highly developed than anything in the earlier period. "Jealousy is present from the first," says Bell. "It is more pronounced in the cases of love between children and adults of the opposite sex, on account of the child's being less able to monopolize the attention of the adult and on account of the precocity of the child concerned in such cases." (5, p. 335.) These youngster lovers are watchful, exacting, hostile toward rivals, heartbroken at slights, and even romantic, as is abundantly proved by the following extract from a letter by a boy of twelve to his sweetheart of eleven:

G. and N. B. liked to scare me to death and I started to cry. I thought for a while you and Floyd had up a case. But he can't cut me out, can he, Hildegard, dear? He is jealous, but he can't have you, can he? Floyd makes me tired with his songs and sayings. But do not get mad at me, for I am not mad at you. You and Floyd are not going to get up a case, are you, dear? For I love you, and I think you love me, don't you dear? It makes me mad to see you laughing and smiling at each other. So don't get mad at me, and just tell Floyd you are not going to have anything to do with him.

This is, also, the period of heightened clothes consciousness, and sensitiveness to inequality in dress, which causes many malicious acts traceable to nothing but envy and jealousy. Both boys and girls, as our returns show, attack each others' clothes by cutting holes in them, throwing mud, or spilling ink on them.

G 6 hid when her sister had a new dress. Another girl led her playmate, who had on patent leather shoes, into a mortar bed. B 11 cut a belt from another boy's coat because he had no belt on his. B 9 cut a slit in his brother's nicer coat. G 11 will stay indoors in the nicest weather, if a visiting playmate is better dressed, and makes bitter remarks from jealousy. G 10 soiled the apron of another girl, and when asked why she did so, replied, 'Because I never had a nice apron.' The spirit of boast and display in boys with new caps and girls with new sashes helps to excite this childhood jealousy to its malicious deeds of mutilations and soiling.

The school life with its examination marks and craving for the teacher's favor gives much opportunity for the exhibition of jealousy. This is the age when tender-hearted girls, especially, become very sensitive to criticism and will weep bitterly if in their fancy another has displaced them or outranks them in the teacher's favor. It is for many one of the keener sorrows of childhood, this inability to secure the predominant if not exclusive love of the teacher. The recognized necessity of observing very strict impartiality in school government indicates that the latent spirit of jealousy is strong.

G 10 marked up her rival's note book on account of the praise which the latter received from her teacher. B 6 slapped a school-mate 'Cause he always knows his spelling and gets a hundred every day.' G 6 if she is excelled in writing is enraged by her jealousy; will try to sponge out the work of others, to scratch them; and will lie down in the grass and kick and cry because she cannot jump as high as her mates. G 8 will sulk, act stubbornly, will not listen to the story lesson, if she cannot sit next to her teacher in Sunday school.

The type of jealousy experienced by different children, varies not only with their age but with their temperament. Some manifestations show a refinement of feeling which is almost precocious, others are infantile in their crudeness. The few following examples will speak for themselves:

G 8 when washing dishes washed her own cup before her sister's; she wished to stand first; it was an action merely symbolic of her thoughts.

G 10 (reminiscence of college woman). My first experience of jealousy, which made a vivid impression, so that the memory is perfectly distinct after many years, came in connection with an illness of my mother who was my childhood idol. . . . My jealousy was because these kind neighbors insisted on doing things for mother (I wanted to be the sole nurse), and I shall never forget my intense anger at them, nor my fits of passionate crying whenever one of the neighbors replaced me in the sick room. This occurred whenever mother was sick for several years; and I was a girl of 15 or 16 before I succeeded in mastering these jealous feelings.

Dr. Caroline A. Osborne carefully observed for a long period two interesting cases of jealousy in the children's ward of the Worcester Memorial Hospital, and kindly furnished the facts set forth below.

Alice, a beautiful little French girl, having drunk caustic lye, was brought to the hospital at about the age of five, and remained for several years. Both from a medical and a psychological standpoint she was an interesting patient. She had to be fed by a stomach tube, and was much below normal size on account of limited nutrition. Because of her beauty, her diminutive size, and her winning, flirting ways, she was the favorite for the attention of visitors. She had a veritable greed for such attention, and posted herself where she would be most likely to see the largest number of people. A typical child in most other respects, she was precocious in the over-development of a calculating acquisitiveness, which expressed itself particularly in the direction of food. This insatiable hunger, especially for candy, may have been the physiological outcry of a starved system, but it was also a psychological fact. Exceedingly observant and retentive of the minutest details bearing on the great question of food supply, and without a moral sense to abash her, she regularly diverted so far as lay in her power, the generosity of nurses and visitors from others to herself. Her jealousy was surely describable by Lombroso's terms, as "a tyrannical desire to monopolize." It was not a jealousy which expressed itself either in grief or anger, but rather in a cold, vigilant Machiavellianism, which seemed uncanny in so small a child.

Mary Jane, an Irish girl of ten, on crutches from hip disease, was another patient in the same ward. She was of a different stamp from

Alice; overgrown, rather than undersized, appealing to one's pity rather than admiration. Her jealousy also was of a different stamp, and showed itself in outward signs, while Alice's was concealed. It was a common sight to see her standing off to one side, watching with wistful, askant eyes, the attention which the other patients, particularly Alice, so disproportionately enjoyed. This watchfulness was written in the expression of the eyes, her scorn in a drawn mouth with corners turned down. Resentment and a questioning inability to comprehend the situation were also present in this frequent 'jealous look,' as the nurse called it. That it was a real case of jealousy was pretty clearly proved one day, when the nurses, suddenly aroused by a noise, rushed to a scene of commotion in the bathroom. What should it be, but Mary Jane braced on her crutches, vigorously trouncing the diminutive Alice, — and why? Mary Jane explained in a tearful voice, "Because she is so pretty and they give her things all the time!"

Not counting reminiscences, our returns report 151 cases of childhood jealousy, stating age, sex, and cause. The facts which come out most strikingly in these cases (64 boys, 87 girls), when compared with those for the infancy period, are the greater diversity and refinement of the exciting causes, and of the manner of expression. Fully 80% of the infant cases were expressed in fundamental, and what might be called racial ways, — by stamping, screaming, biting, striking, etc. Such manifestations, although they are by no means absent in children from six to twelve, are often displaced by expressions of a psychologically higher order, like sulking, lying, mocking, slander. Threats of murder and drastically disastrous wishes against rivals may be openly or secretly held, but instead of overt aggression, we frequently find children sulking, brooding, withdrawing into themselves, and hiding sometimes for hours. There are real cases of wounded affection and of bitter, non-petulant weeping for one thing. Tattling also becomes a prominent manifestation. This tattling is a species of contempt, a kind of disparagement, comparable to the more scientific gossip of adults, and children take a corresponding delight in it; because they feel that to lower the reputation of a schoolmate is to increase their own. Again, jealousy comes to be a prolific source of children's lies; tattling itself is often sheer lying accusation. 'Ferriani personally studied 500 condemned juveniles with reference to their lying habits, and found that 195 lied from jealousy, envy, and revenge.' (19, Vol. I, p. 352.)

Adolescent Jealousy. Eighty-two cases of a reminiscent character, stating age and circumstances, were given. Of these, 50 speak of talents, class-marks, beauty, popularity, etc.; 32 of attentions to friends, lovers, etc., as being the cause for jealousy. The returns show a marked change over the childhood period. And this we should expect, knowing that psychic adolescence is heralded by 'all-sided mobilization,'

that 'the consciousness of childhood is now molted,' that a special consciousness of sex now dawns, that hero worship and a longing to excel arise. "Self-feeling is increased," writes Dr. Hall, "and we have all forms of self-affirmation. The new sense of self may be so exquisitely delicate that a hundred things in the environment that would never rankle before, now sting and irritate." (19, Vol. 2, p. 79.) Mere possessions having only a personal value, are no longer causes of jealousy, and if clothes are mentioned it is rather because of their importance in the eyes of others, for the ego now is much more of a socius and keeps at least one eye on the *alter* of society or the opposite sex. Youth desires fine clothes, talents, advantages, for their impressiveness upon an onlooking world. Thus at the adolescent stage the returns mention as excitants to envy or jealousy such things as talent in music, popularity in athletics, brown eyes, girls with long, thick hair, elocutionary ability, a pretty face, self-confidence and powers in conversation, capacity to think quickly, good vocabulary, pleasing, graceful manner, cleverness, skill in making witty remarks. Is it not significant that the more purely personal qualities such as modesty, cleanliness, sincerity, are never mentioned as causes of envy or jealousy? This is the romantic period, when girls especially magnify their own deficiencies and their own possibilities and revel in the mere delight of being a French countess, a colonial dame, a Southern belle, George Eliot, Evangeline, or Joan of Arc. The intense longing to be a great actress, to be a world favorite musician or artist often verges on the morbid, and is then more akin to envy, than to simple, normal desire. An almost constant craving for sympathy and recognition, a new sense of self-importance, and by Hall's law of emotional antithesis, a tendency to pass to the other extreme of self distrust, make adolescence a productive season for rank growths of envy and jealousy.

Youth sometimes appears to be as tyrannical in regard to attentions as infancy, but slights wound in a deeper and peculiar way.

G 17 cried bitterly because her sister entertained a gentleman friend to her seeming neglect. G 13 was hardly civil when her father showed hospitality to a girl visitor of about her age. When the visitor had gone she made her father tell her over and over that he loved her best. G 20 cried a half hour when her sister received a new hat from her mother, thinking it a sign of preference on the mother's part. G 12 threatened to kill herself because of the greater attention she considered was shown to her brother.

If anything, there is more exaction in regard to the attentions of friends outside the home. This comes to light in the crushes and mashes which are now so common. Girls 'chum

it' with much intensity, and often live in constant trepidation lest their friend show more preference for another, and ask time and time again to be assured that they are the first and most dearly beloved. This comes out prominently in the returns. Girls are 'terribly' slighted if not told a secret, or a piece of news first, or are not invited first, etc.

G 19 says, "I want my friend all to myself." G 20: "I want my friends near and want to monopolize them." G 16: "I saw a girl with her arm around my chum, and I was so jealous I went up stairs to have a cry." G 18: "I feared lest my friend should love another more, though she constantly tells me she loves me better than any other person." Many of the quarrels and fallings out in these crushes have jealousy at the bottom.

Most intense, however, is the jealousy which accompanies adolescent love-making. Girls like to provoke it in their beaus and play with it, though they are by no means free from it themselves and are fearful when a supposed rival appears with a new trinket, ornament, or a new dress calculated to attract more attention. Two cases are reported below; further examples may be found in Dr. T. L. Smith's article on Types of Adolescent Affection.

M 28. "I had a desperate siege of love jealousy in my high school years. I aimed to look unconcerned before my rival, but tried to get my girl's sympathy by catching her eye, looking grieved or hurt, and simulating a nervous tremble while I wrote. No matter where they sat I kept my eye on them closely; would grind my teeth and utter threats under my breath. The jealousy was a kind of chronic obsession; but was intensified by a concrete situation which I could take in directly with my eyes, when I felt enraged enough to chop off my rival's head. I never planned to poison him, but wished him all manner of evil, and if the circumstances had been right, I might have done something serious. I brooded and would lie awake nights to roll my pain like a morsel. I planned to ruin my rival in the girl's eyes, and contrived to get a blank marriage certificate which I filled out with his name and hers, counterfeiting my rival's handwriting; but was restrained from putting it on her desk by a sense that it was a contemptible trick. One time I caught him when he put his arm around her — I could have killed him on the spot."

The following are extracts from the Journal of Marie Bashkirsteff. (3.) As early as page 2, when she was 12 years old, she says:

I love the Duke of H. Mar. 14. I should be so happy if the Duke would only take notice of me, and I would bless God. Oct. 13. I was looking up my lesson to-day when little Herder, my English governess, said to me, 'Do you know that the Duke is going to marry the Duchess M—?' I put the book closer to my face, for I was as red as fire. I felt as if a sharp knife had pierced my heart. I began to tremble so violently that I could scarcely hold the volume. I was afraid I was going to faint, but the book saved me. I said my lesson in a voice that trembled with emotion . . . but what passed within me, in the depths of my soul, no one shall ever know! Oct. 17. I read the announcement mention in the newspaper. . . . I could not

write in the evening. I threw myself on my knees and wept. (Inserted note: Reading this seven years after produces no effect on me whatever). Oh, I detest him! I want to see them together. . . . How I am changed since the 13th of October, that fatal day! Suffering is depicted on my countenance. His name is no longer the source of beneficent warmth. It is fire; it is a reproach to me; it wakens jealousy and grief within me. Nov. 29. I am tortured by jealousy, love, envy, deceit, wounded vanity, by every hideous feeling in the world.

There can be no doubt that at adolescence the feeling of jealousy rises to a higher plane. Ninety persons definitely answered the question, In what respects was the state of jealousy different when you were a child? With few exceptions, the judgment is that childhood jealousy is more explosive, violent, shorter, more sudden, objective, frank, and is prompted by pettier and more material causes. Following are some of the differences noted in the returns. In childhood it was 'unreasonable,' 'more like a summer shower; now it is a winter's gloomy storm.' 'The attacks were brief, soon forgotten, and did not fatigue so much.' 'In childhood bitterness was felt toward the person, now it is toward the self.' 'As a child there was only egoism in the feeling, now there is none.' 'The signs were more outward, now they are more inward.'

The latter distinction is valid for a good many cases. The typical expression for childish jealousy is violent, overt, anger or aggression; but in adolescence, under the whip of jealousy, the feelings may become painfully subjective; the soul turns in upon itself, broods, grieves. Lancaster found that the curve of despondency beginning at eleven rises steadily and rapidly till 15, and culminates at 17. (19, p. 77.) Only animals high in the scale can experience the depressive type of jealousy, which even in the human first comes to its fuller development as late as adolescence.

Adult Jealousy. Proceeding now to adult jealousy, we are at once confronted with the immensity of the subject and the impossibility of surveying it. The writer, at least, believes that jealousy is an almost universal instinct determining action in a multitude of ways, if not always as a conscious motive, nevertheless pervading the ins and outs of little things and great, from the peanut stand to a continental railway system, from a sewing circle to the Congress of Vienna. The causes and circumstances are too numerous and diverse to invite classification, but it is certain that the instinct of jealousy, however lowly its origin, is not a transitory affair peculiar to infants, children and youth, and that it persists into old age, even after the battle of life has been lost and won. With comparatively few exceptions, in neutral or rare individuals, it is present or

latent in all human beings,¹ and colors the struggle for existence in the smallest as well as the largest of its aspects.

Examples of adult jealousy are known to every observer of human nature, yet the citation of a few selected (non-criminal) cases may serve a purpose.

F — idolizes her son, and is extremely jealous of all his friends. Reads all his letters that she can get hold of. When he became engaged to be married, she became ill over it. Though the girl was an estimable one in every way, she persisted in saying contemptible things about her future daughter-in-law.

F 31. I detest now when somebody kisses or fondles my children, and when they cling to friends or relatives; even their devoted love to their father at times grieves my heart.

F 35. I was exceedingly jealous when in love; and tortured the man so that he was quite unhappy. Once married I did not feel jealousy any more. I liked to see him young and charming, and hear how ladies favored him. I often heard the nonsensical question, 'You are not jealous? And you have such a beautiful husband!' I think people and the world often inflame this bad feeling. In later years I often felt envious of wealth, the world's goods and fortune, and wished the worst things to happen to our happier neighbors. The feeling passed with the first stroke of good fortune.

F 23 is a tyrant to her husband, who does not dare to go out without her, to look up or say a word about a woman. She dismissed all the women servants and causes a row about every day. Her jealousy is a veritable madness; her body becomes rigid and she is seized with cramps. Possibly it will pass when she becomes a mother.

F 27. When I was grown up I loved to tease the men who courted for my hand; it was a very agreeable thing to do, and I felt never a moment's remorse. Maybe, it was due to the influence of my old nurse, who always recommended me to torment gentlemen, 'for they are like dogs, — nothing can harm them.' She sang a couplet to this effect, and I thoroughly believed her. I am a jealous wife, I know. I never allow pretty girls to come near, have old servants, and a superannuated nurse for my boy, and she sees to it that I have no cause for suspicion. Now since I have the baby, I am less jealous of my husband, yet I cannot say I am altogether free from this feeling.

M 30. I feel envious in my career now and cannot bear that one speaks about other physicians as able and renowned; it makes me sick at heart.

F 35 is a beautiful and much admired woman, but so jealous that her husband doesn't even dare to go anywhere accompanied by her, because she is sure to make a scene. She hates all women, especially girls. She was also a very jealous child, as her mother says, and had convulsions which occurred every time she had a fit of jealousy. She is consumptive now and we have all observed that since this illness, she is less jealous and even likes it when her husband goes to

¹It is, of course, impossible to get any satisfactory data as to the universality of jealousy. Only 26 out of the 346 answering our questionnaire disclaimed having jealousy in their composition. Two hundred and thirty persons replied to the question, How do you feel toward a person whom you know to be jealous of you? Again only 26 replied that they had never known any one to be jealous of them, which is another interesting sidelight, showing the prevalence of jealousy.

see her friends; and now, for the first time she has taken a *young* governess into the house. The others had always been 'monsters,' or gentlemen.

F 40 is so jealous that she never allows her children even to embrace her grandparents. One time when her little boy of six years let it out that he had been to his grandmother's and gotten some candy from her, she gave him such a slap in the face that the child actually lost consciousness.

M 28. When in college I became passionately attached to my roommate, in fact I loved him. I did not want him to marry, and I planned a home in which he was to live as one of the family, my wife loving him almost as much as me. When, one day, a letter came announcing his marriage I felt terribly hurt—hurt is the word; it was hardly mortification, still less rage or resentment; it was keen grief, falling sensation in the stomach, pressure pain on the chest, more especially about the heart; it was a dire sense of having lost something, of being poorer. One of the hardest things I ever did in my life was to write the letter of congratulation.

M 70 (condensed delineation of a jealous Scotchman); not selfish; generous to a fault; keenly sympathetic; kind hearted, genial when things go well; quick tempered, rather irritable, very energetic, impulsive, almost fiercely enthusiastic; easily carried away by an idea; very vain especially of newspaper notice, public recognition, and even personal appearance as photo; inclined to magnify his office; very sensitive to interference by colleagues; jealous of new enterprises undertaken by them that had not occurred to him, and well satisfied if such undertakings miscarry; determined to 'get in' if success is probable. This trait is most marked. Very jealous in social matters and of authority and property rights; sensitive to lack of respect by inferiors; has remarkably graceful way of covering chagrin when worsted.

This last description is quoted as a good example of one kind of jealous temperament; and to bring out the fact that jealousy is not limited to morose and sinister individuals. In fact, so far as our results go, it is not associated with any distinctive type, and may appear in many strange combinations. In our returns there were described 185 'jealous temperaments.' Of these, 88 were also mentioned as being selfish, 87 as irritable, 61 as energetic, 56 as genial, 54 as generous, 43 as melancholic, 26 as sluggish. Irritability, selfishness and energy seem, therefore, to be the most frequent correlates; but not by any means necessary ones. The influence of heredity is often mentioned, but not with sufficient surety and uniformity to warrant any conclusions.¹

¹ Dr. G. E. Partridge kindly loaned me some statistical data on temperamental qualities of school children of elementary grade. By underlining a number of adjectives or descriptive phrases, printed on child study outline blanks, teachers were able after a year's study to delineate rather fully the character of the pupils under their charge. Out of a total of 1,094 delineations, only 19 (10 girls, 9 boys, ages 7-16) were reported as jealous. Of these 19, 10 were good natured, 11 disagreeable, 9 sensitive, 6 generous, 12 complaining. The smallness of the number reported as jealous can be accounted for by several reasons, which need not, however, be here considered.

Madame Anna Grudzinska thinks that poets and artists are very often jealous of rivals, of their fame, riches, wives, and their own inspirations. She cites Julius Slowacki (see his *Letters*), Adam Mickiewicz, and Chopin as examples among Poland's eminent men. Victor Hugo and Molière were known to be jealous, and Heine went so far as to poison a poor parrot of whom his Mathilda was fond. Wharton in his *Life of Pope*, observes, "Among authors, jealousy and envy are incurable diseases." Finck thinks that men of genius, owing to their high emotionality, are usually very jealous. (16, p. 129.)

Jealousy Distinguished from Related States. Anger and fear are so original, so underived that it is almost impossible to define them psychologically except in terms of themselves. This is not true to the same degree of jealousy; for the state of jealousy, it will be found, is a compound or aggregate, and permits of considerable analysis in terms of other feelings. The present phase of our subject will be approached by a descriptive definition of jealousy and allied emotions; the distinctions made will, however, be logical rather than psychological in purpose.

Rivalry is a broad, protean term used by both biologists and psychologists. For Baldwin, it is a complex having the following ingredients: biological struggle for existence, desire of being a cause, love of power, love of the game itself, self-assertion, imitation.

Competition may be made to apply to rather definite cases under rivalry, when the object striven after is more or less clearly in view. (Century.) Both are species of self-emphasis and assertion of power, which are the prerequisite of jealousy, emulation and envy.

Many and various attempts have been made to define *jealousy*: 'Suspicion or bitter resentment at successful rivalry' (Century). 'Apprehension or suspicion of being outdone by a rival in matters of affection or favor' (Standard). 'Aversion to the winner who carries off the trophy of his superiority' (Martineau). Ribot accepts Descartes's definition, 'Jealousy is a kind of fear related to the desire we have of keeping some possession.' By distinguishing jealousy from allied states, its exact meaning becomes clearer. *Emulation*, for instance, may be taken to signify an expression of love of power and superiority for their own sake, but 'being intrinsically neutral as to time and motive.' It is the pure desire to raise oneself to a superior state, best typified in Wordsworth's Happy Warrior of Delight 'whose high endeavors are an inward light.' *Envy*, 'however, designates a more sinister state which contains the pain of inferiority, irritation and a large amount of ill feeling toward the individual who affects us disagreeably by the mere

fact of his superiority.' (23, p. 90.) Jealousy is differentiated from envy by the absence of the consciousness of inferiority. As Martineau puts it, envy is 'the grudging sense of relative inferiority.' Aristotle makes a neat distinction. For him, envy is a feeling of pain, *solely* because *others* are prosperous. Emulation is also a species of pain, but solely because *we* are not so prosperous. The former is vicious, being satisfied with a leveling down; emulation is virtuous, and only satisfied with a leveling up. 'Envy to which the ignoble mind's a slave, is emulation to the learned and the brave.'

What are the opposites of envy and jealousy? Spinoza figured out 'that the nature of man is generally constituted so as to pity those who are in adversity and envy those who are in prosperity.' 'Envy is hatred in so far as it affects a man so that he is sad at the good fortune of another person and is glad when evil happens to him.' 'Compassion is love in so far as it affects a man so that he is glad at the prosperity of another person and is sad when any evil happens to him.'

Horwicz discusses this interesting contrast in a lively section of his *Analysen* entitled *Mit- und Fremdgefühle*. (21, pp. 302-325.) 'In a certain sense,' he thinks, 'it may be said that envy is just as natural for the heart of man as is sympathy,' but he adds, 'it is much more difficult to rejoice with the joyful than to be sad with the sad.' 'There are some natures so noble that they can see another in possession of a good for which they have ardently longed, not only without envy, but with actual *Mitfreude*.' Nevertheless, Horwicz finds so much *Schadenfreude* and *Missgunst* that he is prompted to exclaim, 'Do we really harbor in our breast, beside the good, a bad spirit, a devil beside the angel? Is there a purely disinterested joy in disaster itself? Alas, we cannot entirely absolve human nature from the charge.' *Mitfreude* is an academic word rarely used by Germans. Is this a commentary on human nature? Why is it that our own standard dictionary does not print the highly respectable word *confelicity*?

The contrast between pity and jealousy is recognized in Schopenhauer's philosophy. Jealousy, as an expression of the will to live, is a most sinister evil; while pity, which assuages that will, is the highest virtue. But Nietzsche naturally makes pity the thing most despicable. There is a proverb, Pity cureth Envy.

By way of summary, then, we may say that envy arises in a mere situation of inequality (not rivalry), and has no reference to the affection or favor of a third party, no sense of personal injury, but is simply a feeling of inferiority; while jealousy embodies all these things and involves a situation of real rivalry. But, as we shall see, it is a plastic complex, which defies the circumscription of a definition.

Expression of Jealousy. We have already stated by example and otherwise the expressive movements connected with the jealousy of children. The outward manifestations which become extreme enough to be either pathological or criminal are reserved for a later section. We have now to mention in more detail the symptoms associated with the jealousy of generally normal young men and women, as based on their introspections. Numerically these symptoms distributed themselves as follows: Flushing 73; paling 22; chill 16; sweating 26; muscle tension 44; scowling, clenching of fists, compressing of lips, gritting of teeth (one or more or all of these combined), 60. Rush of blood to the periphery and a general or partial tensing of the muscular system were most frequently mentioned. The body assumed an erect position, a rigid attitude, or moved as if in great pain. For one person the chin quivered, the lips became extremely white, the corners of the mouth were drawn. The eyes might be fixed, roll, flash or grow dull. Some would sit very still, others would stamp, crouch, or walk heavily or wring their hands. Several pressed their tongues against the roof of the mouth. Many girls like to seclude themselves or cry bitterly; one young woman claims that no other emotion can make her cry. For others jealousy is too dry a state for tears. Some fall prostrate when they weep. The general complex of symptoms accompanying sulking and obstinacy are frequently present.

Quoting Sutherland, "Dislike, jealousy and hate are, in their physiology, closely analogous to fear and grief. They whiten the skin, reduce the glandular secretions, and depress the vitality; but they have one very distinctive feature. The bodily powers which they restrain are still present though kept in repression. . . . The woman who looks like marble from the deadly gnawing of jealousy will show a deep, dark flush when her rival suddenly comes in sight." (40, p. 289.)

The fact is, as the returns abundantly show, that jealousy being an extremely mutable psychosis, presents many variations between individuals and even in the same individual. Good introspection will discern slight expressive movements in very mild cases, but often enough such movements are small if not imperceptible. Many of the correspondents said they had none whatever. Thus one young woman wrote that her 'envy and jealousy do not express themselves outwardly; they eat inside of me.' Long training and pride may succeed in hiding jealousy from the world's view; but observers of sensibility can discover it even behind a mask. The question, *In the absence of overt acts are you able to detect jealousy? How?* brought many interesting and suggestive replies. Subtle changes in the expression of the countenance

were most often mentioned, particularly of the eyes, confirming the proverbial location of envy and jealousy in that organ. As one correspondent put it, 'Jealousy may be detected by a certain expression of the eyes, indescribable but perceptible to observant and sensitive people, an acute, watchful, anxious gaze, averted when it perceives itself watched.' Other indexes mentioned are, the manner of carrying the head, firm set mouth, restless or strained behavior, compression or movements of the lips, slight tightening of the muscles, sighing, elongation of the face, suspicious, pumping questions, over-assumed indifference, inuendo in remarks, chariness of compliments, unguarded words, drooping of corners of mouth or lack of interest shown in listening to another's praise. One young woman perceives jealousy in 'the reserve nature, the flashing eyes, often sulking look. Even where these are not seen there seems to be something in the very air which tells me of the presence of a jealous person.'

Darwin says that his correspondents generally denied that they could recognize jealousy, and thinks that envy and jealousy can hardly be considered to have any characteristic expression, and that the vague and fanciful phrases which poets use in describing these states is a confession that they have no clear outward signs. (9, p. 79, p. 262.) Sir Charles Bell attempts to describe the facial expression of jealousy more fully than Darwin (4, p. 157), but thinks that only poetry like Shakespeare's can truly portray the emotion in the vivid colors of nature, and he considers it a difficult subject for painters.

By the employment of accessories this difficulty is somewhat reduced, and artists do not altogether avoid the theme. I was able to secure two pictures in which it was present, and these I used to test whether an artist can really portray the emotions of envy and jealousy, clearly enough to be correctly interpreted, without the assistance of a suggestive title. The first of the pictures was a colored art supplement by *Geoffroy* from the French Magazine *L'Illustration* (numéro de Noël, 1905) entitled *L'Envie*, supposed to represent an envious little girl, intently following behind another little girl of the same age, who was fortunate enough to be the possessor of a coveted bunch of rosy cherries. The second picture was a copy of Mme. Elizabeth Gardner Bourgeois's *The Award of Paris*, which represents a barefoot boy (Paris), age about eight years, presenting an apple to the prettiest of three girls. On the right, and in the background is a girl who is supposed to be jealous. Grasping her skirt with one hand, the little finger of the other hand in her mouth, she looks upon the awarding with askant eyes. The first picture was tried upon 24 subjects, the second on 16. On the first exposure only the envious

or jealous girl was shown, the rest of the picture being covered up. On the second exposure the titles only were concealed. The reactions of the subjects were entirely spontaneous, and the results showed little contradiction in the results of the first and second exposure, though the interpretations were more definite when the complete picture was shown. Eighteen out of the 24 guessed *cupidity* (or its equivalent), and 18 out of 24 mentioned *interest*, as being the expression on the face of the *L'Envie* girl. Other judgments were scattered and stated fear, surprise, stealth, etc. Cupidity as meaning strong desire is akin to envy, so we should have to call this a pretty good record. Fifteen out of 16 correctly mentioned jealousy (mostly directly by that name) in the case of the second picture; six used the word envy also, four mentioned shyness, four revenge, two sorrow, ten sulkiness. So, as far as the results of this little test go, we may conclude that envy and jealousy have a characteristic, readable, emotional expression, at least in the face.

Analysis of Jealousy as a Mental State. Several lines of evidence may be adduced to show that jealousy is not a simple mental state. Spinoza spoke of it as 'a vacillation of the mind;' James Martineau as an 'ulterior compound;' Bhagavan Dás makes it a mixture of love and hate; Irons calls it a complex state; Ribot, a 'binary compound derived from the composition by mixture of heterogeneous and divergent elements.' As not infrequently happens, the poets have already furnished a better characterization than any psychologist can provide. Shakespeare sums it all up, according to Finck, in his two lines,

'But, O what damned minutes tells he o'er
Who dotes, yet doubts, suspects, yet strongly loves.

W. Collins in his Ode to Passion, it seems to me, has done as well:

'Thy numbers, Jealousy, to nought were fixed :
Sad proof of thy distressful state ;
Of differing themes the veering song was mixed ;
And now it courted Love, now raving called on Hate.'

Our returns abundantly bear out this conception of jealousy, and give us some idea of what are the differing themes. One hundred and twenty-two persons in their introspective accounts mentioned *anger*, as one of the elements. This heads the list. Eighty-four mention *self-pity*; 32, *grief*, sadness, sorrow, melancholy, dejection, despondency; 60, *mortification*; 39, *fear* and anxiety; 55, *hatred*, revengeful thoughts, desire to injure, rancor; 21, *sulking*, impulse to flee from the irritating situation, desire to seclude self and to cry; 21 mention other feelings not falling under the above heads. In one given individual, whatever brand of jealousy he may have, the complex

is even for him a veering thing, with now this element now that element prominent. And between individuals the permutations are many. Anger, self-pity and grief constitute the most usual combination, and the resultant jealousy falls into the sthenic or asthenic type, according as the first or last element is predominant. The two grand divisions are 'the jealousy which suffers and the jealousy which is angry,' but either anger or grief may be lacking in any given state.

We shall not push our analysis until we have cited some concrete descriptions, by persons who themselves have undergone the experience of jealousy.

F 22. Jealousy usually arouses in me a feeling of self-pity, anxiety or fear, rarely any of the other more violent emotions. The attack may be sudden or it may be the reaction from some previous strong feeling. The sudden attack comes and goes quickly. My hands always grow cold. A sudden chilly sensation of the spinal column has once in a while accompanied the attack.

F 22. I simply felt a heavy, sinking feeling all through me; hated everybody, and was very nervous; often sulked.

M 23. I felt exceedingly pained at being surpassed in any kind of play and also in love. Toward a rival in love, I felt that he was cruel to all, unfit for his high position. I killed him often and often committed suicide.

F 20. I can scarcely describe how I feel. I get desperately 'blue,' also feel pity for my miserable self, and these are about the only times that I ever cry; I just want to go off somewhere and hide. The attack comes in a flash; merely an action or word on the part of the person may bring it on, and make me miserable for a week and often much longer. Once in its throes, self-control is of no avail; it simply has to wear off of its own accord.

F 18. At first I could n't cry. I just shook with sobs and then I cried as though my heart would break, fell on my knees and began to pray.

F 18. When I am jealous my muscles feel stiff, my heart beats fast and I feel as though I could not draw my breath. Sometimes it seems as though my heart really aches.

F 19. The attack comes on suddenly; when by some word or act I am led to think I am not first in the third party's affection, a pang, a sort of darting pain, goes through my heart, my face clouds over, my lips compress, a chill, stony feeling comes over me, and I pity myself. If I have anything in my hands I clench it tightly. The pain darts through in a second and then I try to shake off the resulting numb feeling. The spell lasts about five minutes; after the spell I am depressed.

F 22. When I am jealous there seems to be something griping my heart. That is all. I feel no anger, no desire to injure, just a feeling as if my heart would break. There is a lump in my throat. I brood, but never give signs of my jealousy outwardly, and I confess that I can't very well drive away the feeling.

F 19. I feel very angry. My face gets very red. I can almost feel my blood boil; by this I mean I have a queer sensation in my body. I was grieved and also felt fear. I felt as though I could tear my rival to pieces.

M 31. Attack is never acute or spasmodic as far as to bodily manifestations, but I have often had a sudden rush of the feeling which

caused almost a sinking at the pit of the stomach or tendency to nausea, with flushing. Though often aroused suddenly by trivial circumstances and suspicions, it is rather a prominence on a regular plateau of the chronic feeling entertained toward some rival.

F—. Three times I have suffered very acutely through jealousy toward girls or the women who were favored by the youths or man I loved. My earliest experience came at about 16 or 17, and my feelings were revealed by crying, melancholy, intense longing for dark eyes, graceful figure, and all the superior physical attractions possessed by those I was jealous of. Many physical sensations, as a feeling of a heavy hand grasping the heart and producing actual pain; depression; loss of appetite; loss of sleep; restlessness; desire to walk far away and alone; brooding over what might have been had I only possessed beauty or superior vivacity,—these all accompanied every attack of 'this green-eyed monster.'

F 28. At the first instant I feel a desire to injure, a cold stiffening of my tongue, a cold creeping at my heart. I never can say a word or I say the wrong thing. Am angry, grieved. I feel as if paralyzed. After such an attack I am quite undone, sick, tired, and dissatisfied with myself. I try to exercise self-control but it helps little.

F 31. I felt a nasty, disagreeable pang in my heart. I could cry for hours, lying in a secluded garden corner, or in my room, thinking of all sorts of things, suicide, murder, flight. This feeling vanished, but even when the man was no more loved I felt the same pang when I saw him with another.

M 24. I feel very unhappy sometimes, especially as jealousy makes me lose confidence in those nearest to me. I would be very happy if science could help, it is my great wish and therefore I will be frank. My outbreaks are uncontrollable, I make a row, a scene, and often have had duels. I know I am a brute. I never allow any one to approach the woman I love or court, even if it is a passing flame. I cannot bear to see another man near her. I would kill him. I feel hot, flush, my eyes flash,—it is a most miserable feeling.

The characterization of envy and jealousy in proverbs and poetry, give further insight into the psychology of the subject. The emaciating aspect of envy is most often seized upon in these references: 'Rust consumes iron, envy consumes itself.' 'An envious man waxes lean with the fatness of his neighbors.' 'As a moth gnaws a garment, so does envy consume a man.' 'Base envy withers at another's joy.' 'Envy is the worst disease.' 'Envy is the dyspepsia of the mind.' (Punch.) 'Nothing can allay the rage of biting envy.' 'Wrath is cruel and anger is outrageous, but who is able to stand before envy?' 'The envious man's face grows sharp and his eyes big.' 'Envy pines at good possessed.' (Cowper.) 'A sound heart is the life of the flesh; but envy, the rottenness of the bones.' (Bible.)

Shakespeare variously calls envy, black, devil, sharp, monster; and speaks of 'Lean-faced Envy in her loathsome cave,' and of 'the brinish bowels of some envious surge.' For Pope 'hateful envy' 'howls,' is 'pale' and looks 'wan,' and 'Listening Envy drops her snakes.' Perhaps the most exquisite and masterful literary study of envy is found in the dramatic mono-

logue by Robert Browning, entitled, 'Soliloquy of the Spanish Cloister.' The first stanza may be quoted:

"Gr-r-r — there you go, my heart's abhorrence!
 Water your damned flower pots, do!
 If hate killed men, Brother Lawrence,
 God's blood, would not mine kill you!
 What, your myrtle bush needs trimming?
 Oh, that rose has prior claims —
 Needs its leaden vase filled brimming?
 Hell dry you up with its flames!"

If Envy carries snakes, Jealousy is itself a monster with green eyes. In Japan it is proverbially associated with a horned dragon, and the literal translation of the Japanese phrase 'to be jealous' is 'to grow a horn.' An African proverb says, 'A jealous woman has no flesh upon her breast, for how-ever much she may breed upon jealousy, she will always be hungry.' 'Jealousy is worse than witchcraft,' says a European proverb. 'Jealousy is the greatest evil.' 'The jealous man spreads his bed with stinging nettles and then sleeps on it.' Shakespeare also calls jealousy a mad devil, and thinks 'The venom clamors of a jealous woman poisons more deadly than a mad dog's tooth.' The Biblical description again, is vivid: 'Love is strong as death; jealousy as cruel as the grave; the coals thereof are coals of fire, which hath a most vehement flame.'

It is the plurality and diversity of the elements in the jealousy psychosis, combined with their hyper-personal character, that makes it so cruel, so poignant. Bhagaven Dás is of this opinion: 'In its intenser forms, connected with sex-love, where the Love . . . is the greatest, the Hate is naturally at its worst; the consequence is that Jealousy is an emotion which may be said to disturb the mind of the human being, sway it, tear it in two more powerfully than any other emotion.' (10, p. 83.) James observes that the strain on actors playing the part of the jealous Moor in Othello is exceedingly severe. 'Coleman was always physically prostrate after the play and could not get a pigment which would stay on his face.' (24, Vol. 2, p. 465.)

But through the heart
 Should Jealousy its venom once diffuse
 'T is then delightful misery no more,
 But agony unmixed, incessant gall,
 Corroding every thought and blasting all
 Love's paradise.

It has been named the 'King of Torments,' and Spenser says, 'Of all the passions of the mind thou vilest art.' Finck is probably right when he calls it, 'The keenest agony known to mankind.'

Genetic development and scope of jealousy. Much of this peculiar anguish is due to the fact that jealousy, at least in its intenser forms, is the acutest hyperself feeling, the keenest self-consciousness experience, which falls to the lot of man. It is pre-eminently an anti-social, self-regarding emotion. In tracing its genesis, we should, therefore, go back to the most primitive feelings of self in the evolutionary scale. "In a certain sense," according to J. W. L. Jones, "self-consciousness is coeval with consciousness itself." (25, p. 38.) The lower animals cannot, of course, be credited with a self-consciousness so highly developed as to be conscious of 'the subject whose activity is the subject's object;' but for our purposes a broader conception than this will be serviceable. We shall consider all feelings connected with the instinct of *self*-preservation and *self*-aggrandizement, as either implicitly or explicitly representing a self-feeling. The very definitions of the most primary and irreducible animal feelings like anger and fear, bring in this ascription of a self. Anger is called *self*-aggressive; fear, *self*-defensive. Thus Stanley says, "In fear there is an elimination of oneself from the injury, in anger elimination of the injury from oneself."

In the human self-feeling, according to Ribot, the primary fact is "the feeling . . . of personal strength or weakness with the tendency to action or arrest of action." Now it is within the bounds of caution to attribute to all conscious animals a corresponding self-feeling, meaning thereby the halo of pleasure-pain feeling which attaches to intra-organic functioning and adjustment to environment. The base-line of the self-feeling will be physical comfort and discomfort, but its exact nature must be left to individual conjecture.

The first rudimentary emotions to heighten this self-feeling are waves of fear and anger. When these are unblended, undifferentiated, we have nothing, as yet, which may legitimately be called jealousy. But when by reason of more and more complex rivalry situations, which higher organisms have to meet, these two feelings oscillate, conflict or combine with other elements, there may result those peculiar states of antagonism and discomfiture, which, because of their peculiarity, should be called jealousy. The creature becomes jealous when the domain of self is trespassed upon by a rival, or threatens to be so trespassed. The self-sufficiency, complacency, security of some well protected, stolid beasts, suggest anything but jealousy; and their serenity is surely farther removed from such a state than the chronic watchfulness and trepidation of so many preyed-upon fauna.

Whatever may be the character of the sense of self in the higher animals, certain it is, that they act as though their

homes, their feeding grounds, their eggs, their cubs, proven-der and mates were very parts and parcels of themselves. Galton's brilliant description of the sociability of the South African ox forcibly strikes us as being a parallel of what happens in the human family when a man suddenly finds the cherished domain of self sundered by the triumph of a rival lover or business competitor. "An ox when separated from his herd exhibits every sign of mental agony, his glance is restless and anxious and is turned in succession to different quarters; his movements are hurried and agitated and he becomes a prey to the extremest terror, . . . (he) cannot endure even a momentary separation from his herd. He strives with all his might and main to get back, and when he succeeds he plunges into the middle to bathe his whole body with the comfort of closest companionship." Who will deny that this bovine behavior closely resembles the frenzy of human jealousy, and indicates the capacity of even a quadruped to feel shrinkage of self and to take comfort in the restoration of self? The psychology of animal jealousy, then, reduces itself to this: a sense of self highly enough developed to feel imminent or accomplished deprivation in situations of rivalry.

Now in children, as in animals, we should expect the first forms of jealousy to be very rudimentary. If, as seems to be the case, the first manifestation of the proprietary instinct is toward the maternal breast, we may look there for our earliest human jealousy. So far as the infantile sense of self is concerned, it exists in the swaddling period, of bodily feelings of comfort or discomfort, including everything external to the body which becomes connected with its physical welfare, such as the breast, the nurse's face, the father's shining spectacles, the lullaby, etc. These alterior factors are probably earlier and more intimately parcel of the dawning feeling of self than the infant's own hands and feet. At any rate it is true, as Baldwin says, "To be separated from his mother is to lose part of himself, as much so as to be separated from a hand or foot."

It is evident that young infants have a sense of self sufficiently real, to be able to feel the pangs of deprivation, beyond mere organic hunger. At the earliest stage it is solely a sensitiveness to dispossession of things material, which minister to the instincts of food and play, and for several years lusty infantile fights are waged, on account of a jealous regard for these things. But surprisingly early we have the dawn of something which contains the promise of higher forms of jealousy. This is the social sense. The following is taken from the manuscript notes of Dr. T. L. Smith, on the Japanese baby, Kiku. "Her social sense appears to have been an early devel-

opment, for Dr. C. A. Osborne reports that she cried at being left alone and showed signs of content at having some one near while in the hospital (age three weeks). The first incident, however, which seems to show a distinct element, is recorded in the 16th week, when she was very much interested in a rattle for about ten minutes, but every few minutes turned away from it, looked up into my face with a smile, and then turned back to the rattle. This suggests a seeking for sympathy, though probably in a very rudimentary form." Since then Dr. Smith has noticed a fretting cry, not of bodily discomfort, but of emotional distress, when Kiku's mother would suddenly leave the room or would attend to the typewriter instead of to the baby. Is Kiku jealous of the typewriter? The very suggestion of the question shows that we are dealing here with something which may develop into true jealousy as soon as the sense of self becomes sufficiently ejective.

Miss Shinn noted the same fact in her niece at about the same age. "It was about ten days before the end of the month (sixth month) that she first showed a decided *emotional dependence* on her mother. She had been separated from her for some time (by a tedious dentist's engagement), had become hungry and sleepy and had been frightened by an abrupt stranger. At last she settled into a pitiful, steady crying, stopping at every angle in the corridor where I walked with her, and watching eagerly till it was turned, then breaking out anew when her mother did not prove to be around the corner. This tragic experience left a much deeper mark than the physical woes, and for some days the baby watched her mother rather anxiously as if she feared she might lose her again unless she kept her eyes constantly on her." (37, p. 180.) The baby's emotional dependence was a sign of her capacity to fear and to feel the deprivation of something that ministers to self,—a capacity which is at the bottom of all jealousy, animal or human, material or affectional.

Paola Lombroso's explanation of infantile jealousy, it seems to me, is in harmony with the general interpretation of jealousy here offered. 'The fundamental law of child psychology which co-ordinates and explains the facts of child life is the strong sense of *self*-conservation and *self*-protection, the jealous care with which the child seeks to preserve himself from everything which can hinder or impede even in the slightest degree his development.' 'The child loves merely because of immediate benefit and pleasure conferred upon him.' Lombroso cites as an example a very good, intelligent child who all at once became fiercely jealous, when having broken his leg he had to stay in bed more than a month, and could no longer endure that his little sister should come into the room, to take his mother's

attention in the slightest degree. Later this child in giving an account of this jealousy which was short lived, said, "I love Lia now, but when I was ill I did not love her."—"In this case is seen in schematic form, what jealousy really is," thinks Lombroso; 'a child becomes jealous, when he is weaker, when there is awakened in him a more imperative need of being supreme in affection and gathering to himself all the benefit.' (30, ch. 1.)

Without attempting to trace in detail the dialectic of the developing personal self from infancy on, it may be said that by impingement upon a social environment, the sense of self deepens and expands, becomes more of a socius; and the nature of the jealousy experience grows *pari passu* complex. Jealousy, as one correspondent stated the case, is 'an important phase of the divine spirit of selfishness, which is identical with the instinct of self-preservation.' It may also be subsumed under the protean conceptions of property and of pride. It is the instinct of appropriation embarrassed by a rival, the impulse of domination obstructed, the pleasure of triumph denied (or threatened): it is thwarted pride. It constitutes the substratum of a multitude of childhood foibles, adult littlenesses and exactions, and is a motive in many situations, where we do not ordinarily consider that it exists at all. Many children's lies, I should say, spring from a tendency to level down inequalities, to dominate in spite of everything, and are crude expedients whereby the child saves himself from the pangs of inferiority or self-insufficiency. Dr. Steinmetz's theory of revenge makes it a desire to enhance self-feeling, and many of the uncanny, malicious acts of children are prompted by such a revengeful jealousy. Thus we have the getting-even, the paying-back psychoses, the calling names, making faces, the don't-speak snubbing, so plainly prevalent among children,—and grown ups. Calling a fortunate rival a scamp, or making some false accusations concerning his victory, repaying slight by another slight, establishes something of an equalization, and wheedles self-pride. A nice white apron is a glaring sign of superiority of Mary over Jane; but a daub of mud soon sets matters right for Jane. If we cannot exalt ourselves we humiliate others, and make ourselves worthy by making them feel cheap; the net result is the same: a more non-irritating level. Similarly, adolescents are prone to resort to extreme ruses all for the sake of forestalling the bitter sense of being outdone.

Revenge is exercised for the same general reason that we desire restitution, when we crave forgiveness on the one hand or exact apology on the other. The administration of justice even is, or historically was, motivated in part by jealousy. Tatting is akin to revenge. Tatting, especially on rivals and

teacher's 'pets,' is an inveterate tendency among children. It is the counterpart to the gossip psychosis of their elders. Both are colored by feelings of elation, superiority, smugness ; the self is flattered and dark hues are painted upon other selves to heighten the contrast. Rumor is a pipe, and one of the winds which blows it is jealousy. Some one has said rather cynically, 'Envy will be a science when it learns the use of the microscope.' Nothing so sharpens eyes and tongues as envy and jealousy. 'Bad eyes see no good;' sharp tongues derrogate and are sarcastic.

Why are gossipers, and many other people, so inordinately stingy with praise? Why do compliments and congratulations so often give a tug at our heartstrings when they are reluctantly released? Because there is a jealous, ever comparing sense of self-conservation, so sensitive that it suffers from the mere comparisons it makes in favor of another self. Why do we take slights so to heart? Why do children take hazardous dares so readily? Why do we resent taunts, and indeed charges of jealousy? Why cannot some natures brook the slightest criticism or disobedience or accept the kindest advice? And what is the psychological reason for our strong aversion to presumptiveness? There is nothing so intrinsically or ethically despicable in mere conceit, to warrant our tingling contempt for it, and our discomfort. Rather, our irritation is unreasoned, absurdly out of proportion to the cause; the reaction is one of instinctive jealousy.

Normally the intensity of all our jealousy should be inversely proportional to the degree of security we feel. But this instinct has such a momentum behind it, that often its intensity proves ridiculously great when measured by the triviality of the exciting event. This is because in the state of nature jealousy was frequently associated with life and death situations, arousing the creatures to their cruelest ferocity; the most ferocious were victorious and left offspring; they were our ancestors. As Othello most significantly said, "Nature would not invest herself in such shadowing passion, without some instruction." Almost every mother is extremely sensitive about any judgment passed upon or treatment shown her children, who are so much parcel of herself. Here the jealousy probably gets an impetus from the many ages of discipline in the prehuman epoch, when every breeding season called out in the female an impulse to watch and to protect. The most pitiful discrepancies between stimulus and reaction, however, come out in the pathological sexual cases, where the victim is 'as jealous as Ford that searched a hollow walnut for his wife's leman.' (Shakespeare.)

As one self contracts, the other self, which is the cause of the

shrinkage, enjoys a corresponding expansion and tends to display and show off its power, and our correspondents often confess, that they feel elated, exultant, proud, patronizing, delighted, self-satisfied, domineering, and triumphant, when they realize that another is 'jealous of them. One calls it 'a wicked feeling of triumph and elation.' Another says, 'I feel a certain glory in the fact. I desire to exercise what power this jealousy may give me to increase the feeling.' Still another writes, 'When I know a person to be jealous of me, I am triumphant and happy. I feel cruel and try to make her more jealous. It makes me feel wicked but it is a delightful sensation.' In pathological cases, such egotism at another's expense is greatly exaggerated, and the paranoiac finds pleasure and fear in the delusion that the whole world is envious or jealous of him.

Instinct and human social organization have conspired to make the self sensitive. That this self, to which we are so often referring, is no metaphysical abstraction, but a psychological reality, most intimately concerned in the jealousy complex, is shown by the fact that *self-pity* is so frequently part of the psychosis. The presence of this self-pity reveals the peculiar subjectivity, which differentiates jealousy from the simpler, more objective emotions. For jealousy in its higher forms is not like anger, a whole-souled *outward* reaction, but is full of schism, conflict, and introspection. The soul, as it were, splits, and by a miracle both cruel and comforting, subjects itself to its own examination, puts itself upon a rack, gloats over its own sufferings, partakes in them, and pities them. If there is any glint of luxury in jealousy it is by virtue of the self-pity.

"A man's Self," says James, "is the sum total of all that he can call *his*, not only his body and his psychic powers, but his clothes, his home, his friends, etc." (24, Vol. I, p. 291.) The more highly organized and extensive this self is, the more scope and depth it gives to jealousy. When a self expands wide enough to include not only family, but race and nation, a man may come to be hateful or jealous toward rival races and nations. "The most peculiar self which one is apt to have," however, says James, "is in the mind of the person one is in love with. The good or bad fortune of this self cause the most intense elation and dejection." Although a miser may feel 'personally annihilated' at the loss of his beloved gold pieces, and though the news of a wrecked fortune may bring a cataclysm to the personality of a business man, the most dramatic and instinctive exhibitions of the 'property psychosis,' of jealousy are in regard to the peculiar kind of self, mentioned by James. Every lover will freely declare that the better and

greater half of his self, is that immeasurably precious portion of personal property, the object of his love. On the principle of *no love, no jealousy* (which is a proverb in Italy, France and Germany), the greater the love, the greater will be the jealousy. Let any rival break in upon the harmony of love, and the perturbation will correspond to the power and complexity of the original feeling.

Finck makes jealousy one of the 14 indispensable overtones or ingredients that go to make up modern romantic love. For him, jealousy is a savage Cerebus, the watch dog of Monopolism, which latter is the proprietary ingredient. "A genuine Romeo wants Juliet and nothing but Juliet." "I had rather be a toad, and live upon the vapor of a dungeon," said the jealous Moor, "than to keep a corner in the thing I love, for other's uses." Why this terrific monopoly? Psychologically, because the Loved One is in very truth the Self, and jealous monopoly is but self-conservation. The straits to which intrusion into this most sacred shrine of self will drive the outraged man, literature and life abundantly illustrate. He may kill one, or two, or three persons: his rival, his idol, himself. To kill the first is simple, instinctive, defensive, man-slaughter; to kill his beloved is really dire suicide, but seems to him warranted, and to next wipe out the miserable remnant of self that is then left in him, only completes the suicide. He may kill in mere reflex, brutal rage, or in cold-blooded bitterness; but he may also kill in love, as surely did Porphyria's lover in that beautiful, or at least æsthetic murder, described by Browning.—Her yellow, golden hair "I wound, three times her little throat around, and strangled her. No pains felt she; I am quite sure she felt no pain. As a shut bud that holds a bee, I warily opened her lids: again laughed the blue eyes without a stain. And I untightened next the tress about her neck; her cheek once more blushed beneath my burning kiss."—Well may the poet ask,

How comes this gentle concord in the world,
That hatred is so far from jealousy?

At the lowest end of the genetic scale is the animal rage of sexual rivalry, at the highest end, an angerless jealousy, all motivated and swallowed up in love,—"a kind of godly jealousy, which I beseech you, call a virtuous sin."

III. THE SPECIAL ASPECTS OF JEALOUSY.

PATHOLOGY OF JEALOUSY. This is a painfully interesting chapter and has received the lion's share of scientific treatment. Some may be disposed to argue that *all* jealousy is pathological, like the Frenchman who said, "*La jalousie est la soeur de l'amour, comme le diable, est le frère des anges.*" Indeed, Ribot

quotes a contemporary writer who defines jealousy as "a morbid fear passing from inert stupidity to active or passive rage." Mantegazza called it "a constitutional psychological malady." Burton styled it "a bastard branch of love melancholy." (7, p. 626.) But granting that there is a normal jealousy, it will still be difficult to determine where the same ends and where the abnormal begins. Moreau makes five gradations of intensity from the feeble jealousy to exaggerated. (31) Imbert distinguishes three degrees: *l'obsession*, *l'idée fixe* and *le deliré de la jalousie*; but he admits there are so many intermediate degrees that the distinctions are hard to maintain. Imbert also differentiates between idiopathic and symptomatic forms (22). Nosologically, Fere and Dorez suggest that morbid jealousy be classed among the phobias (13). Villers, however, thinks it should be ranged in the great group of delusions of persecution (43). He would, accordingly, make all cases of the disease varieties either of *paranoia alcholia* or *paranoia sexualis*.

Villers, who has made one of the most comprehensive studies of the subject, lists the causes for the affection in the following order: psychic degeneration, alcoholism, hysteria, neurasthenia, troubles with the female genital functions (especially at the climacteric), cerebral traumatisms, senility and cocaineism. Almost all cases are engendered by alcoholism. Krafft-Ebing observed morbid jealousy in 80 per cent. of alcoholics still capable of sexual life (28); but the examination of many hundreds of paranoid patients without alcoholic history, revealed not a single case with delusions of jealousy. Excessive inebriety, though at first producing hyperæsthesia, finally results in atony of the genital organs and this diminished sexual ardor seems to form the foundation for the conception of jealousy and its characteristic obscene and erotic accompaniments (6).

Dorez distinguishes between the active and passive cases. The former are represented by the excited, maniacal *persécutes-persécutés*, and tend to murder. The latter, which are much rarer, are marked by reserve, melancholia, hallucinations, and tend to suicide. (13) Stefanowski makes two grand divisions: (a) hyperæsthesia of jealousy, and (b) anæsthesia of jealousy. The first class is the more numerous. Everything that "the insane person sees, hears, feels, the perfume of a handkerchief, a look, inspection of undergarments—all furnish traces of an odious infidelity." The unfortunate victim goes to the most pitiable and unwarranted extremes, bathes letters in chemical solutions to discover lines written in sympathetic ink, makes microscopic investigations, "ceaselessly plagues his family with his complaints, reproaches, his despair," and often in a delirium of drink, suspicion and rage, he kills. Sometimes the jealousy is retrospective and is based on circumstances which happened

and were forgiven years before. Stefanowski reports such a case in a young Russian, naturally genial and generous, who goaded his wife to confess and reconfess a former faithlessness, and finally beat her to death with a cowhide. (39, p. 387.)

In the anæsthetic class fall the cases no less sad, though more despicable, of the blackmailer who profits by the prostitution of his wife, of the man with such excessive coldness that he divides amours with a rival. Though fierce jealousy is found even among prostitutes and *souteneurs*, society with them tends to extinguish jealousy. Here we have the other side of the picture, which is instinctively repellant, and leads one to recognize that there is a normal jealousy which lies somewhere between the anæsthetic and hyperæsthetic forms.

CRIMINOLOGY OF JEALOUSY. Should the murders prompted by jealousy be called criminal, pathological, or neither? Alienists appreciate both the difficulty and great forensic importance of this question. The public pardons no other kind of manslaughter more readily, and in France, at least, the tendency has been to let such murderers go free. Thus, in one case, a married woman killed her rival six months after the discovery of her husband's adultery, but the court refused to punish. In another case a man who suffered horribly from the tortures of jealousy rose one morning covered with cold sweat, and shot his unfaithful wife. "The medico-legal report declared him irresponsible on the ground that he had obeyed an irresistible impulse which had annihilated his will." (39.) Marc makes the general statement that "Jealousy nearly always decreases the criminality of the deeds which it prompts."

Dr. Hans Gross in his *Kriminal-Psychologie* says that envy is more irreconcilable and by far more universal than other forms of hate, and that it is impossible to overestimate its danger. "Through no other passion, perhaps, are so many lives endangered and destroyed, so many undertakings thwarted, so much that is worthy made impossible, so countless many persons misjudged." (17, p. 555.)

Important as envy and jealousy are as causes of crime, I am informed through a letter from expert special agent, John Koren, of the bureau of census, division of Vital Statistics, that "The criminal statistics published by the government yield absolutely no information of value on this subject, nor can anything be found in institutional reports." One fugitive reference states that in the year 1874 jealousy caused the suicide of twenty men and six women in France. (13, p. 50.) Morselli says that for a period of ten years in Italy, comprising 10,347 suicides, jealousy caused nine out of every one thousand with women, and six out of every thousand with men. (43, p. 150.) The present writer secured from a clipping-bureau, newspaper

accounts of 'criminal jealousy,' covering all the United-States for 24 days, from May 10, to June 4, 1906. Although these data are undoubtedly incomplete, they are suggestive. Eleven cases of assault not issuing in immediate death were reported, including six cases of shooting, one of stabbing, two razor attacks, and two cases of acid throwing. In addition, there were for this period, seven cases of murder, and seven of suicide.

Envy and jealousy also constitute a prominent factor in juvenile crime. Dorez and Moreau cite several cases in young children. One boy of 10, jealous of the caresses which his mother seemed to lavish on his little brother, 6 years old, cut his throat with a razor. Another boy of 12 in a violent attack of jealousy strangled his little sister, still in the cradle, by forcing a candle into her throat and then filling her mouth and nostrils with hot cinders. In our study of the actions of normal children prompted by jealousy, we often came across deeds verging on criminality. It would seem that this passion merits more attention than it has received, from students of crime.

The question of *sex differences* in criminal and normal jealousy is very complex and delicate. The weight of quotable (male) authority is to the effect that women are more susceptible to jealousy. Confucius said, "The five worst maladies that afflict the female mind are indocility, discontent, slander, jealousy and silliness. Without doubt, these five maladies infest seven or eight out of every ten women, and it is from these that arises the inferiority of women to men." Confucius also made jealousy one of the seven just grounds on which a woman may be divorced. (18, p. 127.) Among the Japanese, it is considered to be an effeminate and feminine trait, and it is one of the first precepts to girls not to yield to it. Weininger says, "Apparently all women are jealous." Heinrich Schurtz finds that woman has less capacity and inclination for social organization than man, and attributes it to the mistrust and ill will which they have for their own sex, and their propensity to gossip. (36, p. 17.) One interesting sex difference has been noted in marital jealousy: a man does not abhor his rival as much as a woman does hers. Marro found the instincts of envy and jealousy were more frequent in young women than in young men, in the ratio of 17 to 1½. But, as Dr. Hall observes, "If it be true, that, as in matters of the heart in general, women are more susceptible to this passion than men, it may well be doubted whether, if it be broadly interpreted, man in his own sphere is not as liable to it." (19, Vol. 1, p. 357.)

PEDAGOGY OF JEALOUSY. The question of sexual jealousy will not be taken up in this connection, for it has been sufficiently alluded to elsewhere. Granted a certain ideal of the

family, a proper amount of this passion is most desirable in both romantic and conjugal love. But, happily, it may in most cases be left to take care of itself, nature having furnished the necessary instruction. Its instinctive character should always be recognized, and the danger is that it may often be too easily called out by too slight occasions.

To make a sweeping statement, however, and to say, as Thorndike does, that, "jealousy and rage, for instance, could be omitted from human life with little loss," is rather unwarranted. Oppenheim makes a similar statement and thinks 'every one will unhesitatingly agree that such an emotion as jealousy, however instinctive, is both useless and vicious, that it cannot possibly cause any good result.' These views cannot be left to stand without qualification.

Abbe de Fénelon in his book on *The Education of Girls*, says, "Jealousy is more violent in children than one would think. They are sometimes seen to languish and waste away with a secret grief, because others are more beloved or caressed than they. Making them suffer this torment is a cruelty too frequent among mothers, but you should know how to use it in a pressing necessity as a remedy for indolence." Rabelais, Bossuet, Locke, Rollin and the Jesuits, likewise, recommended rivalry as a stimulus in instruction; but the classic protest against this doctrine, the effects of which protest are seen to-day in the auto-emulative system of notebooks used in the French schools, was framed by Rousseau, who said, "I prefer a hundred fold that *Emile* not learn at all, what he learns through jealousy or vanity. I would stimulate . . . without rendering him jealous of any one. He would desire to surpass himself."

Those who, contrary to Rosseau, believe in the spirit of rivalry, are inclined (travelling the easier road) to say, Abolish jealousy by substituting for it noble emulation. But the matter is not so simple. Psychologically, the latter is very much like the former. A correspondent writes, "when the perceptive organs apprise the brain centres of a series of facts that the brain centres interpret as evidence of a condition of rivalry, that acts as a stimulus to excite the impulses of antagonism. The finished product is jealousy. In its mild form, we call it emulation and try hard to define it as something different from jealousy. So far as my experience goes, I am convinced that emulation is only a lesser degree of the same feeling that prompts one to murder his rival. They are both aroused by the same set of mental operations, and the mild form often becomes more intense, revealing its true nature." As Beattie says in his *Moral Science*, "Let the man who thinks he is actuated by generous emulation only, and wishes to know whether there be anything of envy in the case, examine his own heart."

G. E. Dawson thinks that the "sinister passions of anger, jealousy, envy, and oppression indicate the inertia of the human soul, and its resistance to radical processes of change." To him envy and jealousy are psychic rudiments, dating originally to a feral utility; and now their complete elimination should be affected by the processes of atrophy and transformation. "The exercise of continual caution in not tempting children to envy and jealousy sums up the pedagogics not only of common sense, but also of evolutionary law. Where function of the immoral diathesis does not occur, reduction must inevitably follow." (11, p. 221.)

The trouble is, we have as yet no system of ethics by which to measure the immorality of this diathesis, and thoughtful teachers and parents are often at a loss how to regard this passion, when manifested in the young. It certainly awakens a great variety of often contradictory 'moral' responses in those who see this trait in others. Two hundred and four persons frankly told how they felt toward a person whom they knew to be jealous of them. Twenty of them admitted indifference; 37 shunned the person because of fear, awe, coldness, or suspicion; 47 expressed contempt, dislike, anger, disrespect; 37 felt exuberant, proud, triumphant; 32 were led to aggravate and torment; 79 felt kindness, pity, or sorrow, and of these only 23 distinctly say that they try to remove the cause. One tried to be friendly, for she considered jealousy the height of misery, another would humble herself, another would put herself in a ludicrous light, and one even confessed to lying in order to allay the pangs of jealousy.

The whole problem is complicated by so many factors, such as age, sex, temperament, frequency, circumstances, etc., that one hesitates to make generalizations. Attacks of jealousy affect one individual in one way, another in a different way. A few say, that by the force of rebuff generous impulses follow experiences of jealousy. Thus one man says, "Many of the most magnanimous things I have ever done have been done to abase or mortify this instinct." Others feel morose, fretful, cross, mean; some mention physical fatigue, exhaustion, nervousness, loss of appetite; while a few feel relieved. The majority (76 out of 120) say they feel ashamed, dispirited, blue, mortified, penitent, discouraged, humiliated. There are few things which incense a person so promptly as imputations of jealousy; it is so distinctly a matter of self-hood, that even in children it should be treated with utmost delicacy, and care should be taken not to add gall to bitterness by formal precepts about jealousy at the unpsychological moment when the soul has already decided of its own accord, on the unloveliness of the experience. Similarly, it does not add to the sweetness of

disposition to play on the jealousy of little children; for this is likely to result in hatred toward parent or teacher, and rival. One kind of jealousy (and there are many kinds) should not be irritated, and should be dreaded as much as a most insidious disease. This is the chronic jealousy between sisters and brothers. The infantile variety which is transitory and explosive leaves no marks; but there is a more sinister variety developed in later childhood and adolescence, which may leave ineffaceable scars. Judges of probate courts can testify that if once the spirit of jealousy is allowed to oppose the peaceful settlement of a testament, a canker has been planted which it is almost impossible to kill, and the family ties are sure to be permanently demoralized. Felix-Thomas rightly deplores that we do not have more and truer *Geschwisterliebe* in our homes, and finds the most redoubtable enemy thereof to be juvenile jealousy, which changes confidence to suspicion and sympathy to aversion. (41, p. 158.) Good honest fights between brothers and sisters are not so deleterious; but the vexation of spirit, and sour quarrelsomeness, and querulousness that accompany jealousy are matted weeds which stifle the flower of *Geschwisterliebe*, and often, too, of filial love. The best horticulture or pedagogy in this case is tactful, and preventive. Courtesy and generosity are best inculcated for their own sake, and not in contrast to jealousy. The child is likely to resent direct precept by reason of the very sensitiveness which makes him jealous, and the effective methods are indirect. It should be remembered that children crave attention in a manner and intensity different from adults. Even an infant will hold out a hurt finger to be kissed, and parents ought to be cheerfully willing to assure and reassure and reassure by formal word of mouth, that they love all their children equally well. This practice, as our returns show, is effective, and supplemented by substantial impartiality would save many pangs and produce good results on the family life.

The child and the sensitive adolescent temperament always need the assistance of sympathy and justice from their social environment; but whenever the self is vigorous, and developed enough it tries to take matters into its own hands. For most of those answering the questionnaire, the attacks came on suddenly, and although some confess entire inability to regulate them, many resort to more or less successful devices of control which are pedagogically suggestive. The following may be mentioned (condensed from the original statements): thinking of good qualities of the rival; turning the attention to other things, as reading, playing the piano, singing, joking, having a good cry, putting self in place of the person of whom jealous; saying something nice about or to the person; prayer,

saying, 'What's the use?' and dwelling on the ugly side of the passion. There is an element of control and assuagement in the very self-pity which is so often part of the jealousy complex. Sometimes the injured self finds refuge in imagination, by picturing fanciful situations where it is the centre of attraction and applause; or recalling the one or two cases in which it stands first in the affection of another, or in accomplishments. As one college girl puts it, 'I use a little common sense, enumerate the good things I have, and as Mrs. Wiggs says, 'I am thankful I have n't got a hair lip.'''

The whole pedagogy of control in cases of undesirable jealousy then, both from the subjective and objective side, is to say, to do, and to call up those things that restore, conserve or comfort the self which is wounded. There is a transitory, lusty kind of jealousy, which is, if anything, a good sign, for it indicates a vigorous sense of self, and the possibility of noble emulative spirit; but there is also a chronic, gnawing, envious kind, which is both physically and mentally unhealthy, which denotes rather a morbid sense of self and develops the opposite of emulation. If in this delicate and complex field, a practical suggestion may be hazarded, it would be this: Develop in your children a robust spirit of self worth; if possible let them have a hobby, a specialty, a pre-eminence in one particular,—not to foster conceit, but to promote a legitimate personality sense. This particular pre-eminence may be a haven of consolation, when buffeted by rivalry one is overcome with the sense of inferiority, and may make it possible for one to say after reflection, 'I am glad to be myself.' When the soul can say this heartily it is free from the corrosion and demoralization of intermittent, chronic envy and jealousy. Such a self need not be non-jealous, but it will be healthily jealous.

ANTHROPOLOGY OF JEALOUSY. From what we have seen of jealousy in animals and young children, we should hardly expect the passion to be absent among primitive peoples. Darwin considers "that almost promiscuous or very loose intercourse was once extremely common throughout the world;" "nevertheless," he adds, "from the strength of the feeling of jealousy all through the animal kingdoms, as well as from the analogy of the lower animals, more particularly those which come nearest to man, I cannot believe that absolutely promiscuous intercourse prevailed in times past, shortly before man attained to his present rank in the zoölogical scale." (8, ch. 18). Maine agrees with Darwin that jealousy could hardly have been dormant in primitive man, and Starcke in his theory of the primitive family combats the idea that marriage ever passed through a general polygamous stage, citing mutual jealousy as an obstacle thereto. After producing numerous instances in which

primitive man willingly surrenders his wife to others, Starcke submits that "the rule may be laid down that jealousy was only excited when the man was afraid that he should lose his wife." "There is no race," Sutherland believes, "entirely without sexual jealousy, but in some it is only slightly developed." But he mentions 17 races among whom wives are easily leant or bartered. He also found 50 or 60 races among whom the bridegroom actually prefers that his bride should already have borne a child." (40, p. 131.)

Finck goes farther than any other writer in making primitive peoples strangers to jealousy. "Among some species of birds," he says, "courtship and marriage are infinitely more refined and noble than among the lowest savages." "I assert without fear of contradiction from any one familiar with anthropological literature, that a savage or barbarian, be he Australian, African, American or Asiatic, would laugh at the idea of refusing to exchange one woman for a dozen others equally young and attractive." (15, p. 54.) "The most painstaking research has failed to reveal to me a single Indian tribe in North or South America that showed a capacity for real jealousy; *i. e.*, anguish based on a sense of violated wifely chastity and alienated affection." (15, p. 89.) Feminine jealousy is said to be lacking even in polygamous households like those of the Zulus, the Fulahs, and according to H. Ellis, of the Koreans. Finck, however, mentions that the Patagonian women fight like tigers from jealousy, and that with the Fijis plurality of wives often causes the stronger women to bite off the noses of the weaker. In spite of these fierce manifestations, he thinks primitive female jealousy only skin deep, easily placable, and concludes that "real jealousy, as a matter of fact, is unknown to the lower races, and even the feeling of revenge that passes by that name is commonly so feeble as to be obliterated by compensations of a more or less trifling kind."

Westermarck is probably a safer guide in this question, because he presents his evidence with greater care. He enumerates some eight peoples among whom there appears to be no jealousy among the women, and where in a few cases, like the Equatorial Africans, the women actually support and favor polygamy. (44, p. 495.) But against these instances, he presents an imposing list of over 20 peoples of whom the opposite is true, where the women not only fight, but commit suicide from jealousy (as seen in some American Indians). A foot-note to this list gives 17 additional references to cases of female jealousy, representing a large diversity of primitive peoples. Westermarck derives the strongest argument against the hypothesis of promiscuity "from the psychical nature of man and other mammals." He arrays evidence in regard to

some 30 uncivilized peoples, some of a very low grade of culture, who by their laws, customs, and often terrible punishments, show a capacity for jealousy. (44, pp. 117-133.) The males among some Indian tribes resort to the law of battle, and fight for the possession of their women. Surely we cannot deny them, at least, the jealousy of the stag. And as Westermarck observes, "If the hypothesis of an annual pairing time in the infancy of mankind holds good, jealousy must, at that stage, have been a passion of very great intensity."

Wm. Jones, of the American Museum of Natural History, New York, in response to my letter of inquiry writes in regard to the widely distributed Central Algonkin Indians, that (a) the dialects of their language are rich in the expression of envy and jealousy; (b) the children manifest envy and jealousy at an early period and betray it in much the same way as so-called 'civilized children;' (c) men and women quarrel among each other over property in much the same manner as 'civilized people;' there is a great deal of envious gossip; (d) envy and jealousy are reflected in proverbs, folklore and in the body of unrecorded literature of the people and are usually regarded unpleasantly; (e) the nature and extent of jealousy for wife and jealousy for husband are much the same as among 'civilized people.'

Geo. A. Dorsey, of the Field Museum of Natural History, Chicago, writes substantially the same on all these points in respect to the Pawnee Indians: (a) the Pawnee word for jealousy is *kawirao*, meaning 'hurt inside;' (b) often poor Pawnee boys in their jealousy or envy steal the clothes or other objects of boys better to do and throw them away or destroy them; (c) the Indians are notorious gossips, and formerly, the old people claim, quarreled almost constantly regarding property, especially concerning ponies, products of the chase, etc.; (e) the men among the Pawnee are exceedingly jealous of their wives, and quickly resent any attention they might bestow upon other men; the women are also jealous, but less so.

Jas. Mooney, of the Bureau of American Ethnology, writes from an acquaintance with the Cherokee, Kiowa, Comanche, Cheyenne, Arapaho, that they are all "extremely jealous of reputation, position, and ability, and in their marital relations, both men and women. They are not, as a rule, jealous or envious of property possession. The children are equally jealous of attentions, but seldom quarrel about possessions. As compared with us, jealousy is strong, envy or covetousness weak."

Geo. B. Grinnell, editor of *Forest and Stream*, finds very wide difference in regard to the nature and extent of wife jealousy, and credits the Crows and Arapahoes with but little jealousy, and the Cheyennes with much.

Boaz believes there is no great gulf separating the primitive and the civilized mind, and all the specific evidence just presented favors the view of Darwin and Westermarck, that there was never a time when man was devoid of the powerful feeling of jealousy.

Abundant material might be collected illustrating the rôle of marital jealousy among non-primitive peoples. It "prompted Greek and Oriental to put wife under lock and key, and Chinese to mutilate their wives' feet, and the Japanese to have their wives shave eyebrows and blacken their teeth after marriage." (16, p. 129.) Jealousy also was responsible, according to Westermarck, for the only recently abolished custom in India which demanded that the widow should be burned on the funeral pyre of her husband.

Further light on the prevalence and degree of jealousy among primitive races, must be sought in connection with their conceptions and institutions of property. Here, again, according to Kline and France, "some savage peoples are inferior to animals in that they possess almost nothing, *e. g.*, peoples in the woods of Borneo and the Forest Weddahs of Ceylon, . . . and when primitive man does hold property it is to a large extent in common." The chief form of property for the primitive horde was the hunting-ground, and this had to be jealously defended against competitors, and we may well imagine that roving bands of troglodytes often had to join in death grapple in their rivalry for the same coveted cave. But within the tribe the communistic system of ownership would tend to put a damper on jealousy, which only became strong as the conception of private property developed. "Communism," think Kline and France, "is the best evidence of mental dullness, physical laziness and primitive lethargy;" and imply that progress does not begin till jealous self-assertiveness is awakened (27, p. 440). Rousseau has painted in classic colors, the idyllic, non-rivalrous primitive state, where sinister jealousy never disturbs the calm.

All customs, laws and institutions, primitive or civilized, ancient or modern, if properly ransacked, would beyond doubt furnish material to illustrate the power of the jealousy psychosis, not only in personal, but in social matters. Such an undertaking, of course, is not within the limits of this study, but a few brief examples taken from the field of religion may be offered in passing. "Have the gods envy?" asks one of Shakespeare's characters, and answers, "Ay, ay, ay, ay, 'Tis too plain a case." Jealousy was a veritable psychosis coloring all Greek mythology and literature. They and the Romans even had gods or goddesses of envy, rivalry, and jealousy, and for that matter the whole Olympian galaxy who did

not bear these names were an envious pack. Zephyrus was jealous of Apollo, Juno of Io, and Jupiter of the whole human race, especially of Prometheus. Jealousy prompted him to one of his most disreputable deeds,—the malicious Pandora box.

Among the Hebrews likewise, in bold and picturesque figure, jealousy is repeatedly ascribed to the great Jehovah. 'He is the husband, Israel, the wife; idolatry and wickedness of every kind are spiritual adultery' (2, p. 553), and often with abominations was He provoked 'whose name is Jealous' (Ex. 34:14). Jehovah is Himself made to say, 'For I, the Lord, thy God, am a jealous God' (Ex. 20:5); 'jealous with great fury' (Zech. 8:2); 'Surely in the fire of my jealousy have I spoken against the residue of the heathen.' In Mediæval Christianity we have one of the strangest outcrops of jealousy in the female mystics. With them the tables were turned: Jehovah is not jealous; but they themselves are jealous of their divine lovers, God and Jesus.

SOCIOLOGY OF JEALOUSY. To what extent has jealousy been a factor, beneficial or otherwise, in shaping social progress? The chief and fundamental unit of society is the family, and no complete consideration of the family can exclude the principle of sexual jealousy. In Sutherland's opinion, "the family is strong in its cohesiveness and distinct in its form only when there is a very decided infusion of sexual jealousy in the national character." (40, p. 130.) Imperfect jealousy among uncivilized communities tends to blur the family lines. 'Its moral mission among highly civilized persons, is to aid in developing the romantic features of love.' Even if the rude savage regards his wife as a piece of property, and even if the origin of the family is to be traced to the proprietary instinct, sexual jealousy at its best is a 'property psychosis,' whose chief function is to resent intrusion, and as such it has been the potent influence in developing chastity, conjugal fidelity, and monogamy. So long as society desires this trinity of virtues to be embodied in the family institution, it is to be hoped that sexual jealousy, at least, will not dwindle.

Jealousy as a sociological factor also raises the whole philosophy of Socialism with its theories of the present and a desirable future society. This philosophy holds that the existing industrial organization rests on the principle of competition between individuals, corporations, and nations; that this principle is an inferior one, and both should and will be displaced by the higher principle of co-operation. John Stuart Mill, writing on *The Stationary State*, says, "While minds are coarse they require coarse stimuli, and let them have them. I confess I am not charmed with the ideal of life held out by

those who think that the normal state of human beings is that of struggling to get on ; that the tramping, crushing, elbowing, and treading on each other's heels, which form the existing type of social life, are the most desirable lot of human kind." Whether or not we agree with Mill's view that this competition is only a transitory phase of industrial progress, it is often true, as Le Bon says in his *Psychology of Socialism*, that present day business "competitors put up with one another because they cannot do otherwise, but the tenderest sentiment they entertain for one another is ferocious jealousy." If the co-operative commonwealth, which Socialism desires, is ever established, it must be by the blending of interests, the encouragement of Kropotkin's instinct of mutual aid, thereby reducing rivalry and lessening the occasion for jealousy. (It is interesting to notice that philosophers with socialistic tendencies, by very temperament, it seems, sometimes favor also the elimination of sexual jealousy, as indicated in the doctrine of free love, which doctrine, however, is by no means an essential tenet or corollary of modern socialism.)

In a competitive society where jealousy is given free play, its influence is paradoxical, being in two opposite directions, one toward democracy and equality, the other toward exclusiveness and variation. This seems to be an expression of Tarde's two laws of imitation and of opposition. The first tendency is a levelling one; every man considers himself at least as good as the next and wants the same privileges, etc., is jealous if there is inequality. But by his nature he is jealous of equality as well, and wants to be different from the next man. When A buys a piano it must be, if only a little, more stylish than neighbor B's. Fancy dressmakers are said never to make two dresses just alike; their customers will not allow it. Many examples might be cited to show that in social matters, where imitation and rivalry are at work, the tendency of jealousy is both to maintain and to break a level.

This comes out clearly in the operation of *group jealousy*. Our questionnaire returns report some 170 cases of such jealousy, and many of the descriptions instructively show its great social significance. Churches might be expected to be free from this motive, but they are the most frequently mentioned in the returns. The causes given include many thing, from chimes and steeples to the size of congregations. Fault-finding gossip, 'cutting dead,' splitting into factions, and spiteful absence from union services are common manifestations.

Commercial jealousy is a species by itself, which, owing to the complexity and militancy of our industrial life, has developed many virulent and peculiar forms, from the backbiting of corner grocers, to the drastic Machiavellianism of the great

syndicates. Towns, juvenile societies, men's and ladies' clubs, girls' cliques, boys' gangs, all may develop, when the rivalry is sufficiently keen, a spirit of jealousy expressing itself in taunts, gossip, libel, secessions, exclusiveness, imitativeness. Jealousy between families expresses itself in the same general ways. Tacitus in describing the ferocity between two hostile German tribes makes a rich remark that "they hated each other like neighbors!" The 'neighborliness' of civilized families is tintured with enough jealousy to make the simile ring true. Illustrations are hardly necessary.

Group jealousy is explainable in terms of the Self, just as is individualistic jealousy. The personal self has simply widened: "the socius, the common self of the group, comes in to drive out the narrower ego of his relatively private life within the group." By the force of imitation and tradition this peculiar social self becomes as sensitive as the private ego; sometimes it seems to be more sensitive, and a man comparatively dull or neutral in private life may exhibit intense spirit, often of a jealous kind, when his group self is irritated.

Now if churches, clubs, towns and families, are not too unwieldy to be moved by jealousy, it is probable that the larger organizations, clans, counties, nations, races, may be so moved, and we are reminded of "France and England whose very shores look pale with envy of each other's happiness." In the personal memoirs, which are the best documents for depicting the inner psychological forces which shape historical destinies, we are favored with many glimpses of our friend Jealousy, who in parliaments, diplomatic circles, congresses, official balls, in places public and private, is motivating the actions which contribute to the current of history. Balance of power, spheres of influence, partitioned protectorates, retaliatory tariffs, secessions, dual governments, federalistic schemes, all directly or indirectly bear witness to the existence of the jealousy of states and nations. The mere citation of examples would take too much space; but this brief general reference may serve to indicate that jealousy is important for the social as well as individual life. An adequate philosophy of history or society cannot neglect this vital instinct.

IV. SUMMARY.

1. Animal jealousy bears a close relation to anger and fear, and is a fundamental instinct, appearing in the lowest vertebrates and in the higher invertebrates. It is connected chiefly with feeding, mating and breeding, and serves as a corrective for the purely social instincts, thus protecting the individual as against the group.

2. Being phylogenetically so fundamental, jealousy appears

very early in the human. Its first manifestations are in regard to the maternal breast, but it continues into old age.

3. Jealousy is interpreted as a self-feeling, which depends for its content not only upon instinctive rivalry, but upon the influences of the social environment. Genetically the emotion shows important developments in complexity and refinement, as the sense of self deepens and expands. Childhood jealousy presents marked changes as compared with infancy. Puberty brings a special increment of sensitiveness.

4. The expression of the emotion exhibits changes, correspondingly. The infantile expressive movements are mainly overt, aggressive and highly instinctive in character. At adolescence, depressive, melancholic symptoms become frequent; they may be either subtle or severe.

5. An analysis of jealousy as a mental state proves it to be peculiarly complex and variable, and perhaps the most painful of all emotions. The commonest constituents are anger, grief and self-pity. The painfulness is due to the intense subjectivity of the psychosis, to the obstruction of impulses of pride and appropriation, to the disorganization of profoundly ego-centric, and highly systematized ideas.

6. The pathology and criminology of jealousy reveal the tremendous practical importance of the instinct and the desirability of its further study especially in its non-morbid aspects.

7. The best pedagogy of jealousy for children and youth is probably indirect and preventive, and consists in the cultivation of a healthy personality sense.

8. Anthropology and the history of society demonstrate the significance of sexual jealousy for the family institution, for chastity, monogamy and conjugal fidelity.

9. The scope of jealousy is shown to be much wider than is ordinarily recognized. Jealousy is at the basis of many attitudes which the individual takes toward his fellows; it colors social customs and institutions; it motivates group action.

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